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FILE 'JPOABS' ENTERED AT 11:42:18 ON 02 APR 96

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  *     J A P A N E S E   P A T E N T   A B S T R A C T S       *
  *                                                             *
  * CURRENTLY, DATA IS LOADED THROUGH THE ABSTRACT PUBLICATION  *
  * DATE OF DECEMBER 26, 1994                                   *
  * THE LATEST GROUPS RECEIVED ARE: C1292 E1651, M1731 & P1851. *
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=> s l1
         90434 DETECT
        173775 DETECTION
         14718 DETERMINE
          6881 DETERMINATION
         41627 MEASURE
         58072 MEASUREMENT
             6 QUANTITATE
             5 QUANTITATION
          1736 ELECTROPHORESIS
            18 ADENYLATE
           243 KINASE
L2            0 (DETECT OR DETECTION OR DETERMINE OR DETERMINATION OR MEASU
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U.S. Patent & Trademark Office LOGOFF AT 11:42:32 ON 02 APR 96

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Your last SELECT statement was:
   S (DETECT OR DETECTION OR DETERMINE OR DETERMINATION OR QUANTITATE OR Q-
UANTITATION OR MEASURE OR MEASUREMENT)(5N)(ADENYLATE(W)KINASE? ?)
Ref         Items   File
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N1             27   155: MEDLINE(R)_1966-1996/May W4
N2             23    73: EMBASE_1974-1996/Iss 12
N3             19     5: BIOSIS PREVIEWS(R)_1969-1996/Mar W4
N4             19   399: CA SEARCH(R)_1967-1996/UD=12414
N5             12   144: Pascal_1973-1996/Mar
N6             12   434: SciSearch(R)_1974-1996/Mar W2
N7              6   440: Current Contents Search(R)_1990-1996/Apr W1
N8              5   351: DERWENT WPI_1981-1996/UD=9613;UA=9609;UM=9601
N9              4    76: Life Sciences Collection_1982-1996/Feb
N10             4   103: Energy SciTec_1974-1996/Feb B2
   22 files have one or more items; file list includes 171 files.

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Ref         Items   File
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N11             4   305: Analytical Abstracts Online_1980-1996/Apr
N12             2     6: NTIS_64-1996/May W4
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N13 2 10: AGRICOLA_70-1996/Mar
N14 1 50: CAB Abstracts_1972-1996/Feb
N15 1 51: Food Sci.&Tech.Abs_1969-1996/Mar
N16 1 156: Toxline(R)_1965-1995/Dec
N17 1 159: Cancerlit(R)_1963-1996/Feb
N18 1 161: Occ.Saf.& Hth._1973-1995/Oct Q3
N19 1 345: Inpadoc/Fam.& Legal Stat._1996/UD=9610
N20 1 350: Derwent World Pat._1963-1980/UD=9612
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UANTITATION OR MEASURE OR MEASUREMENT)(5N)(ADENYLATE(W)KINASE? ?)

Ref	Items	File
N21	1	357: Derwent Biotechnology Abs_1982-1996/Mar B1
N22	1	654: US PAT.FULL._1990-1996/Mar 26
N23	0	2: INSPEC_1969-1996/Mar W4
N24	0	8: Ei Compendex*Plus(TM)_1970-1996/May W2
N25	0	9: Business & Industry(TM)_Jul 1994-1996/Apr 02
N26	0	14: Mechanical Engineering Abs_1973-1996/Apr
N27	0	16: IAC PROMT(R)_1972-1996/Apr 02
N28	0	18: IAC F&S INDEX(R)_1980-1996/MarW1
N29	0	28: Oceanic Abst._1964-1996/Apr
N30	0	29: Meteor.& Geoastro.Abs._1970-1996/Feb

22 files have one or more items; file list includes 171 files.

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1/5/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06662917 88307917
Activity staining of blotted enzymes by reaction coupling with transfer membrane-immobilized auxiliary enzymes.
Sock J; Rohringer R
Research Station, Agriculture Canada, Winnipeg, Manitoba.
Anal Biochem (UNITED STATES) Jun 1988, 171 (2) p310-9, ISSN 0003-2697
Journal Code: 4NK
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8811
Subfile: INDEX MEDICUS
A blotting method is described to detect enzymes that do not normally yield a colored product. The method can be used for dot blotting as well as blotting after gel electrophoresis of many enzymes if the reactions they catalyze can be coupled to an oxidase or a dehydrogenase. The latter, designated "auxiliary enzymes," are preimmobilized on membranes of nitrocellulose or positively charged nylon and the reaction they catalyze is coupled with reduction of tetrazolium salt to yield colored formazan on areas of the transfer membrane occupied by the blotted enzymes. In the examples reported here, preimmobilized glucose oxidase, L-amino acid oxidase, xanthine oxidase, malate dehydrogenase, and a mixture of hexokinase and glucose-6-phosphate dehydrogenase were used as auxiliary

enzymes to detect blotted invertase, leucine aminopeptidase, purine nucleoside phosphorylase, fumarase, and adenylate kinase, respectively. Detection limits varied, but never exceeded 100 ng for these enzymes. After blotting from polyacrylamide gels, the fumarase assay was the most sensitive of those investigated, detecting 10 ng of enzyme used for electrophoresis. Invertase, a glycoprotein, was detected with higher sensitivity on nitrocellulose membranes when concanavalin A was present on the membrane in addition to the auxiliary enzyme, glucose oxidase. On blots from isoelectric focusing gels, the assay detected two isozymes of purine nucleoside phosphorylase in a sample from calf spleen and at least five isozymes of this enzyme in lysates from human red cells.

Tags: Animal; Support, Non-U.S. Gov't

Descriptors: *Enzymes--Analysis--AN; *Enzymes, Immobilized; Catalysis; Cattle; Colorimetry; Erythrocytes--Enzymology--EN; Oxidoreductases --Diagnostic Use--DU; Spleen--Enzymology--EN; Staining; Substrate Specificity

CAS Registry No.: 0 (Enzymes); 0 (Enzymes, Immobilized)

Enzyme No.: EC 1. (Oxidoreductases)

1/5/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

2

05365246 84289246

Leakage of adenylate kinase from stored blood cells.

Olsson T; Gulliksson H; Palmeborn M; Bergstrom K; Thore A

J Appl Biochem (UNITED STATES) Dec 1983, 5 (6) p437-45, ISSN 0161-7354 Journal Code: HEA

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8412

Subfile: INDEX MEDICUS

The bioluminescent firefly luciferase assay for ATP was used to measure adenylate kinase activity in plasma. The formation of ATP from ADP was measured continuously in a coupled assay using a luminometer. Optimal analytical conditions were determined for the coupled reaction. The assay was used to follow accumulation of adenylate kinase in plasma of different preparations of stored red blood cells. Adenylate kinase was found to be released concomitantly with hemoglobin during aging. There was a high degree of correlation between the amount of accumulated hemoglobin and adenylate kinase. The assay was also used to measure lysis of stored platelets during aging.

Tags: Animal; Human; Support, Non-U.S. Gov't

Descriptors: *Adenylate Kinase--Blood--BL; *Erythrocytes--Enzymology--EN; *Phosphotransferases--Blood--BL; Adenosine Diphosphate--Pharmacology--PD; Beetles; Blood Preservation; Kinetics; Luciferase--Diagnostic Use--DU; Luminescence

CAS Registry No.: 58-64-0 (Adenosine Diphosphate)

Enzyme No.: EC 1.13.12.- (Luciferase); EC 2.7 (Phosphotransferases); EC 2.7.4.3 (Adenylate Kinase)

1/5/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05183129 84107129

Determination of adenylate kinase activity in cerebrospinal fluid [letter]

Hische EA; van der Helm HJ; Blanken HI
Clin Chem (UNITED STATES) Feb 1984, 30 (2) p333-4, ISSN 0009-9147
Journal Code: DBZ
Languages: ENGLISH
Document type: LETTER
JOURNAL ANNOUNCEMENT: 8405
Subfile: INDEX MEDICUS
Tags: Human
Descriptors: *Adenylate Kinase--Cerebrospinal Fluid--CF; *Cerebral Ischemia--Cerebrospinal Fluid--CF; *Phosphotransferases --Cerebrospinal Fluid--CF; Spectrophotometry, Ultraviolet
Enzyme No.: EC 2.7 (Phosphotransferases); EC 2.7.4.3 (Adenylate Kinase)

1/5/13 (Item 13 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

04285857 81113857
[Determination of adenylate kinase (AK) enzymatic types in cadaveric and stored blood]
Opredeliane na tipovete na enzima adenilatkinaza (AK) V trupna i lageruvana kruv
Rupcheva L
Eksp Med Morfol (BULGARIA) 1980, 19 (4) p232-6, Journal Code: EEB
Languages: BULGARIAN Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
JOURNAL ANNOUNCEMENT: 8106
Subfile: INDEX MEDICUS
The author examined 243 samples of corpse blood with various duration and causes of death. In all cases she found the types of AK even in corpses with advanced decomposition and date of death since 1 month, 2 months, but in one corpse-since 3,5 months. In Blood, stored at room temperature, she found with certainty, the types of AK up to 6 weeks, but in some cases even over 10 weeks, which showed stability of this enzyme.
Tags: Comparative Study; Human
Descriptors: *Adenylate Kinase--Blood--BL; *Phosphotransferases--Blood --BL; Blood Preservation; Cadaver; Death; Electrophoresis, Cellulose Acetate; Forensic Medicine; Time Factors
Enzyme No.: EC 2.7 (Phosphotransferases); EC 2.7.4.3 (Adenylate Kinase)

1/5/14 (Item 14 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

04285854 81113854
[Determination of adenylate kinase (AK) phenotypes in blood stains]
Opredeliane na fenotipovete na adenilatkinazata (AK) v petna ot kruv.
Rupcheva L
Eksp Med Morfol (BULGARIA) 1980, 19 (4) p220-4, Journal Code: EEB
Languages: BULGARIAN Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
JOURNAL ANNOUNCEMENT: 8106
Subfile: INDEX MEDICUS
The author examined blood spots, prepared experimentally with known types of the enzyme adenyl kinase (AK) 1-1 and 2-1 on the most frequently met in the practice materials-carriers: cloth, paper, wood, knife, glass and

stone. The studies were performed by means of electrophoresis on cellulose acetate folio. She found that the types of AK could well be determined with spot duration of 5-6 months, saturating the material (cloth, paper), and over 1 year in the presence of crusts of dried blood, regardless of the material-carrier (including cloth and paper). She recommends that the system AK should be introduced in the practice during examination of blood spots at experts' reports according to material evidences. In view of phenotype frequencies of AK in our country the theoretical probability for two blood spots, randomly taken, to differ only by AK is 12.85%.

Tags: Human

Descriptors: *Adenylate Kinase--Blood--BL; *Blood Stains; *Phosphotransferases--Blood--BL; Adenylate Kinase--Genetics--GE; Electrophoresis, Cellulose Acetate; Forensic Medicine; Phenotype; Time Factors

Enzyme No.: EC 2.7 (Phosphotransferases); EC 2.7.4.3 (Adenylate Kinase)

1/5/17 (Item 17 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03754580 79131580

Determination of adenylate kinase variants in two Washington, D.C., population samples: a microcellulose acetate procedure.

Stombaugh PM Jr; Kearney JJ

J Forensic Sci (UNITED STATES) Jul 1977, 22 (3) p590-5, ISSN 0022-1198 Journal Code: I5Z

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 7907

Subfile: INDEX MEDICUS

Tags: Comparative Study; Human

Descriptors: *Adenylate Kinase--Genetics--GE; *Blood Stains; *Electrophoresis; *Electrophoresis, Cellulose Acetate; *Phosphotransferases --Genetics--GE; Adenylate Kinase--Blood--BL; Adenylate Kinase--Metabolism --ME; Caucasoid Race; District of Columbia; Electrophoresis, Starch Gel; Erythrocytes--Enzymology--EN; Negroid Race; Phenotype; Variation (Genetics)

1/5/19 (Item 19 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

3

03571375 78205375

Fluorometric microassays of adenylate kinase, an enzyme important in energy metabolism.

Borglund E; Brolin SE; Agren A

Ups J Med Sci (SWEDEN) 1978, 83 (2) p81-4, ISSN 0300-9734 Journal Code: WRG

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 7810

Subfile: INDEX MEDICUS

The adenylate kinase system offers a mechanism for the rapid provision of energy by catalysing the production of ATP from ADP. Fluormetric micromethods were developed for determination of the activity of this enzyme using either formation of ADP or ATP, in each case measured by coupling to suitable dehydrogenase reactions. Both procedures yielded results in good agreement, but when ADP formation was measured an interfering phosphatase splitting of ATP had to be corrected for.

Therefore, ADP was preferred as the substrate and its conversion to ATP was determined in a coupled hexokinase-glucose-6-phosphate dehydrogenase reaction yielding stoichiometric amounts of NADPH which were measured by the native fluorescence of this form of the nucleotide. The sensitivity and reproducibility of our micro-method permitted assay of small samples (50-500 ng) such as a layer of cerebellar cortical nerve cells and of insulin producing cells from the islets of Langerhans. Although not reaching the high values in muscle, these cells showed significantly higher activities than parenchymatous cells from the liver and the exocrine pancreas. The sensitivity attained is more than required for assay of clinical fine needle biopsies and is quite satisfactory for detection and estimation of adenylate kinase contaminants in enzyme preparations.
Tags: Animal
Descriptors: *Adenylate Kinase--Analysis--AN; *Fluorometry--Methods--MT; *Phosphotransferases--Analysis--AN; Adenosine Diphosphate--Biosynthesis--BI ; Adenosine Triphosphate--Biosynthesis--BI; Adenylate Kinase--Metabolism --ME; Evaluation Studies; Mice; Myocardium--Metabolism--ME

1/5/20 (Item 20 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03289020 77191020
[Determination of adenylate kinase in the blood serum with the aid of creatine kinase]
Opredelenie adenilatkinazy v syvorotke krovi pri pomoshchi kreatinkinazy
Chetverikova EP
Lab Delo (USSR) 1977, (2) p94-7, ISSN 0023-6748 Journal Code: KYU
Languages: RUSSIAN Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
JOURNAL ANNOUNCEMENT: 7709
Subfile: INDEX MEDICUS
Tags: Animal
Descriptors: *Adenylate Kinase--Blood--BL; *Creatine Kinase--Diagnostic Use--DU; *Enzyme Tests--Methods--MT; *Phosphotransferases--Blood--BL; Adenine Nucleotides; Adenosine Diphosphate--Analysis--AN; Creatine; Phosphocreatine--Analysis--AN; Rabbits

1/5/24 (Item 24 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

02845445 76026445
A cellulose acetate membrane technique for the determination of adenylate kinase types in bloodstains.
Saenger MS; Yates RG
J Forensic Sci (UNITED STATES) Oct 1975, 20 (4) p643-6, ISSN 0022-1198 Journal Code: I5Z
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 7602
Subfile: INDEX MEDICUS
Tags: Human
Descriptors: *Adenylate Kinase--Blood--BL; *Blood Stains; *Electrophoresis--Methods--MT; *Electrophoresis, Cellulose Acetate--Methods --MT; *Phosphotransferases--Blood--BL; Phosphates

1/5/43 (Item 16 from file: 73)
DIALOG(R)File 73:EMBASE

817455 EMBASE No: 77200490
Agarose thin layer electrophoresis for the determination of red cell adenylate kinase (EC 2.7.4.3) polymorphisms
AGAROSE DUNNSCHICHT ELEKTROPHORESE ZUR BESTIMMUNG DER ERYTHROZYTAREN ADENYLATKINASE (EC 2.7.4.3) POLYMORPHISMEN
Tsuji T.; Weissmann J.
Abt. Rechtsmed., Med. Hochsch., Lubeck GERMANY, WEST
ARZTL.LAB. (GERMANY, WEST) , 1976, 22/11 (363-365) CODEN: AELAA
LANGUAGES: GERMAN
A simple method for the determination of AK phenotypes by means of agarose thin layer electrophoresis is reported and compared with the agar and CAM methods. Separation was excellent and the spots were well demarcated. The results were better than those obtained with the other two methods.

EMTAGS:
Theoretical study (0110); In vitro study (0101)
DESCRIPTORS:
*adenylate kinase (0000905); *enzyme polymorphism (0096489); *erythrocyte enzyme (0015948)
IDENTIFIERS: thin layer electrophoresis
SECTION HEADINGS:
02902100000 CLINICAL BIOCHEMISTRY/ METHODS OF ANALYSIS/ Enzymes
02904020000 /ENZYMES/ Transferases
02907010000 /BODY CONSTITUENTS/ Blood cells
02502040000 HEMATOLOGY/ ERYTHROCYTE, HEMOGLOBIN AND PORPHYRIN/ Erythrocyte metabolism

1/5/45 (Item 18 from file: 73)
DIALOG(R)File 73:EMBASE

569963 EMBASE No: 76155354
A cellulose acetate membrane technique for the determination of adenylate kinase types in bloodstains
Saenger M.S.; Yates R.G.
Serol. Sect., US Army Crim. Invest. Lab., Frankfurt/M. GERMANY, WEST
J.FORENSIC SCI. (USA) , 1975, 20/4 (643-646) CODEN: JFSCA
LANGUAGES: ENGLISH
The genetically determined isoenzyme blood group system of adenylate kinase (AK) has been demonstrated in lysates of human erythrocytes and in bloodstains. The technique employed was horizontal starch gel electrophoresis using either a discontinuous histidine citrate, a phosphate, or a succinate buffer system. Since then, electrophoresis on cellulose acetate membrane (CAM) has been introduced as a rapid technique for the determination of AK types in fresh lysates. The use of CAM for determining AK types in bloodstains. In preliminary tests with CAM, the discontinuous histidine citrate buffer system gave clear results with lysates, but unsatisfactory results with even fresh bloodstain material. The phosphate buffer seemed more promising. This paper describes the evaluation and adaptation of the phosphate system for bloodstain samples.

EMTAGS:
Methodology (0130); Theoretical study (0110); Forensic medicine (0210); In vitro study (0101); Diagnosis (0140)

DESCRIPTORS:
*adenylate kinase (0000905); *isoenzyme (0024828); *blood group system (0209838); *erythrocyte (0015918)

IDENTIFIERS: cellulose acetate membrane technique; electrophoresis
SECTION HEADINGS:
  04936030000 FORENSIC SCIENCES/ CRIME (SCENE) INVESTIGATION/ Blood stains
  04932010000 /SEROLOGY/ Criminal investigations
  00503040100 GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY/ ORGAN PATHOLOGY/ Blood; lymph/ Blood; serum; plasma
  00502030000 /GENERAL PATHOLOGY/ Metabolism and biochemistry
  00504010000 /TECHNIQUES AND LABORATORY METHODS/ Cell, tissue and organ culture
  00502240000 /GENERAL PATHOLOGY/ Forensic pathology

1/5/49 (Item 22 from file: 73)
DIALOG(R)File 73:EMBASE

222620 EMBASE No: 75010938
Determination of the enzymatic polymorphisms of red cells: Adenosine deaminase (ADA), adenylate kinase (AK), phosphoglucomutase (PGM), and 6 phosphogluconate dehydrogenase (6 PGD) using cellulose acetate foil electrophoresis
DIE BESTIMMUNG DER ERYTHROCYTAREN ENZYMPOLYMORPHISMEN: ADENOSINDESAMINASE (ADA), ADENYLATKINASE (AK), PHOSPHOGLUCOMUTASE (PGM) UND 6 PHOSPHOGLUCONAT DEHYDROGENASE (6 PGD) MIT DER CELLULOSEACETAT FOLIEN ELEKTROPHORESE
Sonneborn H.H.
Biotest Serum Inst. GmbH, Frankfurt/M. GERMANY, WEST
BIOTEST MITT. (--) , 1972, No.29 (33-47) CODEN: BTMLB
LANGUAGES: GERMAN
A method for determination of isoenzymes of adenosine deaminase, adenylate kinase, phosphoglucomutase and 6 phosphogluconate dehydrogenase by cellulose acetate foil electrophoresis is described. Its advantages are technical simplicity, a short electrophoresis time (90 min at room temperature) and recording of results on the foils themselves.

EMTAGS:
In vitro study (0101); Theoretical study (0110); Methodology (0130)
DESCRIPTORS:
*erythrocyte (0015918); *adenosine deaminase (0000833); *adenylate kinase (0000905); *phosphoglucomutase (0037124); *phosphogluconate dehydrogenase (0037128)

IDENTIFIERS: isoenzyme determination; cellulose acetate electrophoresis
SECTION HEADINGS:
  02907010000 CLINICAL BIOCHEMISTRY/ BODY CONSTITUENTS/ Blood cells
  02902100000 /METHODS OF ANALYSIS/ Enzymes
  02904010000 /ENZYMES/ Oxidoreductases
  02904020000 //Transferases
  02904050000 //Isomerases

1/5/51 (Item 1 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

11244033 BIOSIS Number: 97444033
Bioluminescent determination of 0.1 picomole amounts of guanine

nucleotides
Ford S R; Vaden V R; Booth J L; Hall M S; Webster J J; Leach F R
Dep. Biochem. Mol. Biol., Oklahoma State Univ., Stillwater, OK 74078-0454, USA
Journal of Bioluminescence and Chemiluminescence 9 (4). 1994. 251-265.
Full Journal Title: Journal of Bioluminescence and Chemiluminescence
ISSN: 0884-3996
Language: ENGLISH
Print Number: Biological Abstracts Vol. 098 Iss. 008 Ref. 098345

A bioluminescence procedure for the determination of the guanylates has been optimized to allow measurement of 0.1 pmol amounts. Modifications of the Karl procedure include the use of purified firefly luciferase and nucleoside diphosphate kinase instead of a crude extract of firefly tails, the use of Tricine buffer instead of the inhibitory arsenate buffer, and optimization of the amounts of reagents and incubation times for each of the partial reactions. In the determination of GMP, background values varied widely with different lots of bovine guanylate kinase. Careful selection of a suitable lot of bovine brain guanylate kinase was essential for determination of lower amounts of guanylates. This establishes that selection of guanylate kinase must be based on experimental determination and not reported adenylate kinase activity. The wide variation in background was not eliminated by the inclusion of adenylate kinase inhibitors.

Descriptors/Keywords: RESEARCH ARTICLE; GMP; GDP; GTP; ADENYLATE KINASE; GUANYLATE KINASE; NUCLEOSIDE DIPHOSPHATE KINASE; FIREFLY LUCIFERASE; BIOLUMINESCENCE; ANALYTICAL METHOD
Concept Codes:
*10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines
*10054 Biochemical Methods-Proteins, Peptides and Amino Acids
*10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
*10504 Biophysics-General Biophysical Techniques
*10506 Biophysics-Molecular Properties and Macromolecules
*10510 Biophysics-Bioenergetics: Electron Transport and Oxidative Phosphorylation
*10804 Enzymes-Methods
10064 Biochemical Studies-Proteins, Peptides and Amino Acids

1/5/54 (Item 4 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

6602201 BIOSIS Number: 86068752
ACTIVITY STAINING OF BLOTTED ENZYMES BY REACTION COUPLING WITH TRANSFER MEMBRANE-IMMOBILIZED AUXILLARY ENZYMES
SOCK J; ROHRINGER R
RES. STN., AGRIC. CAN., 195 DAFOE RD., WINNIPEG, MANITOBA R3T 2M9, CAN.
ANAL BIOCHEM 171 (2). 1988. 310-319. CODEN: ANBCA
Full Journal Title: Analytical Biochemistry
Language: ENGLISH

A blotting method is described to detect enzymes that do not normally yield a colored product. The method can be used for dot blotting as well as blotting after gel electrophoresis of many enzymes if the reactions they catalyze can be coupled to an oxidase or a dehydrogenase. The latter, designated "auxiliary enzymes," are preimmobilized on membranes of nitrocellulose or positively charged nylon and the reaction they catalyze is coupled with reduction of tetrazolium salt to yield colored formazan on areas of the transfer membrane occupied by the blotted enzymes. In the examples reported here, preimmobilized glucose oxidase, L-amino acid oxidase, xanthine oxidase, malate dehydrogenase, and a mixture of

hexokinase and glucose-6-phosphate dehydrogenase were used as auxiliary enzymes to detect blotted invertase, leucine aminopeptidase, purine nucleoside phosphorylase, fumarase, and adenylate kinase, respectively. Detection limits varied, but never exceeded 100 ng for these enzymes. After blotting from polyacrylamide gels, the gumarase assay was the most sensitive of those investigated, detecting 10 ng of enzyme used for electrophoresis. Invertase, a glycoprotein, was detected with higher sensitivity on nitrocellulose membranes when concanavalin a was present on the membrane in addition to the auxillary enzyme, glucose oxidase. On blots from isoelectric focusing gels, the assay detected two isozymes of purine nucleoside phosphorylase in a sample from calf spleen and at least five isozymes of this enzyme in lysates from human red cells.
Descriptors/Keywords: ISOELECTRIC FOCUSING DETECTION LIMIT
Concept Codes:
*10054 Biochemical Methods-Proteins, Peptides and Amino Acids
*10504 Biophysics-General Biophysical Techniques
*10804 Enzymes-Methods
*10808 Enzymes-Physiological Studies
10064 Biochemical Studies-Proteins, Peptides and Amino Acids

1/5/64 (Item 14 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

2338923 BIOSIS Number: 15026831
DETERMINATION OF ADENYLATE KINASE IN THE BLOOD SERUM BY MEANS OF CREATINE KINASE
CHETVERIKOVA E P
LAB DELO 2. 1977 94-97 CODEN: LABDA
Full Journal Title: Laboratornoe Delo
Descriptors/Keywords: RABBIT MUSCLE CIRCULATORY DISTURBANCE ADP
Concept Codes:
*10808 Enzymes-Physiological Studies
*13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
*14501 Cardiovascular System-General; Methods
*14508 Cardiovascular System-Blood Vessel Pathology
*17506 Muscle-Pathology
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10804 Enzymes-Methods
12504 Pathology, General and Miscellaneous-Diagnostic
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
Biosystematic Codes:
86040 Leporidae
Super Taxa:
Animals; Chordates; Vertebrates; Nonhuman Vertebrates; Mammals; Nonhuman Mammals; Lagomorphs

8

1/5/68 (Item 18 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

955971 BIOSIS Number: 54065910
SIMULTANEOUS DETERMINATION OF ADENYLATE KINASE AND ADENOSINE DEAMINASE ISO ENZYMES ON 1 MEMBRANE
SONNEBORN H H
HUMANGENETIK 15 (1). 1972 87-89. CODEN: HUMAA

4

Full Journal Title: Humangenetik
Concept Codes:
*10054 Biochemical Methods-Proteins, Peptides and Amino Acids
*10504 Biophysics-General Biophysical Techniques
*10804 Enzymes-Methods
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10508 Biophysics-Membrane Phenomena
12100 Movement (1971-)

1/5/69 (Item 19 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

625947 BIOSIS Number: 52060912
DETERMINATION OF ADENYLATE KINASE PHENOTYPES EMPLOYING AGAR GEL
SKUDE G; JAKOBSSON A
HUM HERED 20 (3). 1970 319-324. CODEN: HUHEA
Full Journal Title: Human Heredity
Descriptors/Keywords: HUMAN
Concept Codes:
*03508 Genetics and Cytogenetics-Human
*05000 Physical Anthropology; Ethnobiology
*10808 Enzymes-Physiological Studies
10006 Clinical Biochemistry; General Methods and Applications
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10504 Biophysics-General Biophysical Techniques
10616 External Effects-Temperature as a Primary Variable-Cold (1971-)
12100 Movement (1971-)
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
23001 Temperature: Its Measurement, Effects and Regulation-General Measurement and Methods
Biosystematic Codes:
86215 Hominidae
Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

9

1/5/73 (Item 4 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

101106156 CA: 101(13)106156z JOURNAL
A general method for visualizing enzymes releasing adenosine or adenosine-5'-monophosphate
AUTHOR(S): Friedrich, Christopher A.; Chakravarti, Shukti; Ferrell, Robert E.
LOCATION: Grad. Sch. Biomed. Sci., Univ. Texas, Houston, TX, 77025, USA
JOURNAL: Biochem. Genet. DATE: 1984 VOLUME: 22 NUMBER: 5-6 PAGES: 389-94 CODEN: BIGEBA ISSN: 0006-2928 LANGUAGE: English
SECTION:
CA107001 Enzymes
IDENTIFIERS: histochem detection adenosine AMP releasing enzyme, adenylate kinase histochem detection, adenosylhomocysteinase histochem detection, staining adenosine AMP releasing enzyme
DESCRIPTORS:
Enzymes,adenosine-releasing... Enzymes,adenylic acid-releasing...
histochem. detection of
Staining,biological...

10

of adenosine- and AMP-releasing enzymes
CAS REGISTRY NUMBERS:
9025-54-1 histochem. detection of, in human and animal tissues
9013-02-9 histochem. detection of, in human erythrocytes

1/5/75 (Item 6 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

98122060 CA: 98(15)122060p PATENT
Determination of the adenylate kinase activity of the blood serum
INVENTOR(AUTHOR): Malaya, L. T.; Kaliman, P. A.; Lemeshko, V. V.; Davydov, V. B.; Vlasenko, M. A.
LOCATION: USSR
ASSIGNEE: Kharkov Medical Institute; Kharkov State University
PATENT: USSR ; SU 983543 A1 DATE: 821223
APPLICATION: SU 3268278 (810325)
CODEN: URXXAF LANGUAGE: Russian CITATION: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (47), 168-9 CLASS: G01N-033/50
SECTION:
CA107001 Enzymes
IDENTIFIERS: adenylate kinase detn serum, blood serum adenylate kinase detn
DESCRIPTORS:
Blood analysis...
adenylate kinase detn. in
CAS REGISTRY NUMBERS:
9013-02-9 detn. of, in blood serum, method for

5

1/5/83 (Item 14 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

6

86039099 CA: 86(7)39099q JOURNAL
Agarose thin-layer electrophoresis for the determination of red cell adenylate kinase (EC 2.7.4.3) polymorphisms
AUTHOR(S): Tsuji, T.; Weissmann, J.
LOCATION: Abt. Rechtsmed., Med. Hochsch Luebeck, Luebeck, Ger.
JOURNAL: Aerztl. Lab. DATE: 1976 VOLUME: 22 NUMBER: 11 PAGES: 363-5
CODEN: AELAAH LANGUAGE: German
SECTION:
CA007001 Enzymes
IDENTIFIERS: adenylate kinase isoenzyme detn
DESCRIPTORS:
Erythrocyte...
adenylate kinase isoenzymes of, electrophoretic detn. of
Blood analysis...
adenylate kinase phenotype detn. in
Electrophoresis and Ionophoresis,thin-layer...
in isoenzyme sepn.
CAS REGISTRY NUMBERS:
9013-02-9 isoenzymes, detn. of, by agarose thin-layer electrophoresis

1/5/88 (Item 19 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

70009793 CA: 70(3)9793p JOURNAL
Determination of adenylate kinase variants in man
AUTHOR(S): Radam, Georg; Strauch, Hansjuerg
LOCATION: Inst. Gerichl. Med., Humboldt-Univ. Berlin, Berlin, E. Ger.
JOURNAL: Deut. Z. Gesamte Gerichtl. Med. DATE: 1968 VOLUME: 63
NUMBER: 3 PAGES: 166-70 CODEN: DZGGAK LANGUAGE: German
SECTION:
CA811000 Mammalian Biochemistry
IDENTIFIERS: adenylate kinases electrophoresis, genetics adenylate kinases, forensic anal adenylate kinases
DESCRIPTORS:
Blood,analysis...
adenylate kinase isoenzyme detn. in
Legal chemistry...
adenylate kinase isoenzymes in blood in relation to
Kinases (phosphorylating),adenylate...
isoenzymes of, detn. of
Genetics...
of adenylate kinase isoenzymes in blood

1/5/93 (Item 5 from file: 144)
DIALOG(R)File 144:Pascal

02275848 PASCAL No.: 79-0236913
RADIOCHEMICAL ASSAYS FOR ADENYLATE KINASE AND AMP DEAMINASE USING POLYETHYLENEIMINE-CELLULOSE THIN LAYERS
LEECH A R; NEWSHOLME E A
UNIV. OXFORD DEP. ZOOL., OXFORD OX1 3PS,UNITED KINGDOM
Journal: ANAL. BIOCHEM., 1978, 90 (2) 576-589
Availability: CNRS-2981
No. of Refs.: 26 REF.
Document Type: P (SERIAL) ; A (ANALYTIC)
Country of Publication: USA
Language: ENGLISH
DETERMINATIONS SIMPLES ET SPECIFIQUES DE L'ADENYLATE KINASE ET DE L'AMP-DESAMINASE DANS DES EXTRAITS TISSULAIRES BRUTS. LE SUBSTRAT RADIOACTIF (AMP) EST SEPARE DU PRODUIT RADIOACTIF DE LA REACTION (ADP OU IMP) PAR CHROMATOGRAPHIE SUR DES COUCHES MINCES DE POLYETHYLENEIMINE-CELLULOSE

English Descriptors: ADENYLATE KINASE; ION EXCHANGE CHROMATOGRAPHY; ANALYTICAL DETERMINATION; ENZYMES; HYDROLASE; RADIOCHEMICAL METHOD; TISSUE; TRANSFERASE
English Generic Descriptors: BIOCHEMISTRY; ENZYMOLOGY
French Descriptors: ADENYLATE KINASE; AMP DESAMINASE; DOSAGE; METHODE RADIOCHIMIQUE; CHROMATOGRAPHIE ECHANGE ION; TISSU; ISOLEMENT; ENZYME; HYDROLASE; TRANSFERASE
French Generic Descriptors: BIOCHIMIE; ENZYMOLOGIE

Classification Codes: 320A06H

1/5/132 (Item 1 from file: 305)
DIALOG(R)File 305:Analytical Abstracts Online

213571 AA Accession No.: 56-05-F-00290 DOC. TYPE: Journal

Simplified method for the determination of phosphoribosylpyrophosphate synthetase activity in haemolysates.
AUTHOR: Torres, R. J.; Mateos, F. A.; Puig, J. G.; Becker, M. A.
CORPORATE SOURCE: Clinical Biochem. Section, La Paz Univ. Hospital, Madrid, Spain
JOURNAL: Clin. Chim. Acta, Volume: 224, Issue: 1, Page(s): 55-63
CODEN: CCATAR ISSN: 0009-8981
PUBLICATION DATE: 14 Jan 1994 (940114) LANGUAGE: English
ABSTRACT: Haemolysates (0.1 ml; prep. described) were mixed with activated charcoal (2.7 mg in 0.9 ml of H2O) for 15 min at 0.degree.C. After centrifugation, a portion (100 .mu.l) of the supernatant soln. was incubated for 20 min at 37.degree.C with 1.9 ml of a pH 7.4 reaction mixture containing 50mM-Tris hydrochloride, 5mM-MgCl2, 1mM-EDTA, 0.4mM-dithiothreitol, 0.5mM-ATP, 0.35mM-ribose 5-phosphate, 32mM-Na2PO4 and 0.25mM-P1,P5-di(adenosine-5')pentaphosphate (I) and the reaction was terminated by adding 0.1M-EDTA (0.2 ml). The mixture was centrifuged in Amicon cones (30 000 mol. wt. cut off) and the filtrate was analysed by HPLC on a .mu.Bondapak C18 column with 0.2mM-KH2PO4 of pH 6 as mobile phase (1.3 ml/min) and detection at 254 nm. Adenylate kinase activity was fully inhibited by I, allowing ribophosphate pyrophosphokinase (ribose-phosphate pyrophosphokinase) activity to be expressed as nmol of AMP generated per h. The calibration graph for AMP was linear for up to 250 .mu.l of haemolysate and up to 50 min incubation time with intra- and inter-assay RSD of 2.7 and 3.4%, respectively. The results agreed well with those obtained using a two-step assay (described).
IDENTIFIERS: chromatography, liquid, high-performance - in biochemical analysis
ANALYTE: ribose-phosphate pyrophosphokinase (9015-83-2) --assay of, in erythrocytes, by HPLC
MATRIX: erythrocytes --assay of ribose-phosphate pyrophosphokinase in, by HPLC
SECTION: F-60000 (Clinical and Biochemical Analysis)

1/5/143 (Item 1 from file: 159)
DIALOG(R)File 159:Cancerlit(R)

00799894 91027758 MEDL/91027758
FLUORESCENCE AND NMR INVESTIGATIONS ON THE LIGAND BINDING PROPERTIES OF ADENYLATE KINASES [PUBLISHED ERRATUM APPEARS IN BIOCHEMISTRY 1990 DEC 4;29(48):10864]
Reinstein J; Vetter IR; Schlichting I; Rosch P; Wittinghofer A; Goody RS
Abteilung Biophysik, Max-Planck-Institut fur medizinische Forschung, Heidelberg, West Germany.
Biochemistry; 29(32):7440-50 1990 ISSN 0006-2960 Journal Code: A0G
Languages: ENGLISH
Document Type: JOURNAL ARTICLE
Journal Announcement: 9101
Subfile: L; M
A new system for measurement of affinities of adenylate kinases (AK) for substrates and inhibitors is presented. This system is based on the use of the fluorescent ligand alpha,omega-di[(3' or 2')-O-(N-methylanthraniloyl)adenosine-5'] pentaphosphate (mAP5Am), which is an analogue of the bisubstrate inhibitor diadenosine pentaphosphate (AP5A). It allows the determination of dissociation constants for any ligand in the range of 1 x 10(-9) to 5 x 10(-2) M. Affinities for different bisubstrate inhibitors (AP4A, AP5A, AP6A) and substrates (AMP, ADP, ATP, GTP) were determined in the presence and absence of magnesium. An analysis of the binding of

bisubstrate inhibitors is proposed and applied to these data. The techniques are used to describe the properties of a mutant enzyme with Gln-28----His (Q28H) prepared by site-directed mutagenesis in comparison to those of wild-type AK from Escherichia coli. This newly introduced histidine is already present in most other adenylate kinases and was regarded to be important or even essential for the catalytic reaction of AK. Temperature denaturation experiments indicate that the mutant enzyme has the same thermal stability as the wild-type enzyme and, as NMR studies indicate, also a very similar structure. However, steady-state catalytic studies and binding experiments showed that the affinities for substrates and inhibitors are elevated from 3-fold (AMP) to 5-fold (ATP) to 15-fold (AP5A) compared to those of the wild-type enzyme. Together with the results obtained by Tian et al. [Tian, G., Sanders, C. R., Kishi, F., Nakazawa, A., & Tsai, M.-D. (1988) Biochemistry 27, 5544-5552] on the effect of replacement of the conserved His-36 in the cytosolic AK (AK1) from chicken by glutamine and asparagine, this shows that residues 28 of AK from E. coli (AKec) and 36 of AK1 are situated in a comparable environment and are not essential for catalytic activity.

Major Descriptors: *Adenylate Kinase--Metabolism--ME; *Escherichia coli --Enzymology--EN

Minor Descriptors: Adenylate Kinase--Genetics--GE; Binding Sites; Binding, Competitive; Enzyme Stability; Escherichia coli--Genetics--GE; Fluorescence; Fluorescent Dyes; Kinetics; Ligands; Mutation; Nuclear Magnetic Resonance; Nucleotides--Metabolism--ME; Substrate Specificity; Temperature

CAS Registry No.: 0 (Fluorescent Dyes); 0 (Ligands); 0 (Nucleotides)

Enzyme No.: EC 2.7.4.3 (Adenylate Kinase)

1/5/147 (Item 1 from file: 357)

DIALOG(R)File 357:Derwent Biotechnology Abs

150877 DBA Accession No.: 93-08929

Release of cellular enzymes for evaluating the dead cell number in bioreactor cultures - detection of lactate-dehydrogenase, alkaline phosphatase and adenylate-kinase to determine cell death during DD7 and BHK21 cell culture (conference paper)

AUTHOR: Merten O W; Keller H; Cabanie L; van Kan Martin C; Moeurs D

CORPORATE AFFILIATE: Inst.Pasteur

CORPORATE SOURCE: Institut Pasteur, 28, rue du Docteur Roux, F-75015 Paris, France.

JOURNAL: Anim.Cell Technol. (319-24) 1992

LANGUAGE: English

ABSTRACT: The release of lactate-dehydrogenase (LDH, EC-1.1.1.27), alkaline phosphatase (APH, EC-3.1.3.1) and adenylate-kinase (AK, EC-2.7.4.3) in the culture medium can be used to estimate the dead cell number in cell cultures. Batch and continuous cultures of DD7 (human-human-mouse hybridoma) and BHK21 cells were performed. Although the cellular enzyme activities were influenced by culture conditions (LDH and APH), and although the stability of the released enzyme activities depended on cell lines and media used, an estimation was possible, especially under steady state culture conditions. Generally, the regression coefficient (R2) between the estimated and the counted dead cell number was better than 0.9 for hybridoma batch cultures and lower for continuous cultures (R2 = 0.84-0.87) and for BHK21 batch cultures (R2 = 0.824). An estimation was also possible using thawed samples and determining APH and AK activities, but due to inactivation at -20 deg, LDH could not be used in this method. (9 ref)

E.C. NUMBERS: 1.1.1.27; 3.1.3.1; 2.7.4.3

DESCRIPTORS: lactate-dehydrogenase, alkaline phosphatase, adenylate-kinase release, DD7, BHK21 cell culture, cell death, dead cell number evaluation enzyme EC-1.1.1.27 EC-3.1.3.1 EC-2.7.4.3 hybridoma trioma baby hamster kidney mammal human mouse BHK
SECTION: CELL CULTURE-Animal Cell Culture (J1)
?ds

Set	Items	Description
S1	147	(DETECT OR DETECTION OR DETERMINE OR DETERMINATION OR QUANTITATE OR QUANTITATION OR MEASURE OR MEASUREMENT)(5N)(ADENYLATE(W)KINASE? ?)

?rd
>>>Duplicate detection is not supported for File 351.
>>>Duplicate detection is not supported for File 345.
>>>Duplicate detection is not supported for File 350.

>>>Records from unsupported files will be retained in the RD set.
...examined 50 records (50)
...examined 50 records (100)
...completed examining records

S2	96	RD (unique items)

?s s2 and gel

	96	S2
	988338	GEL
S3	6	S2 AND GEL

?t s3/7/1-6

3/7/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06662917 88307917
Activity staining of blotted enzymes by reaction coupling with transfer membrane-immobilized auxiliary enzymes.
Sock J; Rohringer R
Research Station, Agriculture Canada, Winnipeg, Manitoba.
Anal Biochem (UNITED STATES) Jun 1988, 171 (2) p310-9, ISSN 0003-2697
Journal Code: 4NK
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A blotting method is described to detect enzymes that do not normally yield a colored product. The method can be used for dot blotting as well as blotting after gel electrophoresis of many enzymes if the reactions they catalyze can be coupled to an oxidase or a dehydrogenase. The latter, designated "auxiliary enzymes," are preimmobilized on membranes of nitrocellulose or positively charged nylon and the reaction they catalyze is coupled with reduction of tetrazolium salt to yield colored formazan on areas of the transfer membrane occupied by the blotted enzymes. In the examples reported here, preimmobilized glucose oxidase, L-amino acid oxidase, xanthine oxidase, malate dehydrogenase, and a mixture of hexokinase and glucose-6-phosphate dehydrogenase were used as auxiliary enzymes to detect blotted invertase, leucine aminopeptidase, purine nucleoside phosphorylase, fumarase, and adenylate kinase, respectively. Detection limits varied, but never exceeded 100 ng for these enzymes. After blotting from polyacrylamide gels, the fumarase assay was the most sensitive of those investigated, detecting 10 ng of enzyme used for electrophoresis. Invertase, a glycoprotein, was detected with higher sensitivity on nitrocellulose membranes when concanavalin A was present on the membrane in addition to the auxiliary enzyme, glucose oxidase. On blots from isoelectric focusing gels, the assay detected two isozymes of purine

nucleoside phosphorylase in a sample from calf spleen and at least five isozymes of this enzyme in lysates from human red cells.

3/7/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03754580 79131580
Determination of adenylate kinase variants in two Washington, D.C., population samples: a microcellulose acetate procedure.
Stombaugh PM Jr; Kearney JJ
J Forensic Sci (UNITED STATES) Jul 1977, 22 (3) p590-5, ISSN 0022-1198 Journal Code: I5Z
Languages: ENGLISH
Document type: JOURNAL ARTICLE

3/7/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

01519262 71064262
Determination of adenylate kinase phenotypes employing agar gel.
Skude G; Jakobsson A
Hum Hered (SWITZERLAND) 1970, 20 (3) p319-24, ISSN 0001-5652 Journal Code: GE9
Languages: ENGLISH
Document type: JOURNAL ARTICLE

3/7/4 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

9529614 EMBASE No: 95095028
Firefly luciferase purification using polyethylene glycol and Dyematrex orange A
Faustin Belinga H.; Steghens J.P.; Collombel C.
Laboratoire de Biochimie C, Hopital Edouard Herriot, 5 Place d'Arsonval, 69437 Lyon Cedex 03 France
Journal of Chromatography A (Netherlands) , 1995, 695/1 (33-40) CODEN: JCRAE ISSN: 0021-9673
LANGUAGES: English SUMMARY LANGUAGES: English
Efficient measurement of adenosine triphosphate by bioluminescence depends on the quality of firefly luciferase used. A rapid purification of this enzyme is reported that permits removal of enzymes interfering in the bioluminescent reaction. The enzyme was extracted from firefly tails and precipitated with PEG 20 000, and the resulting pellet was subjected to chromatography on a Dyematrex gel (Orange A), which retains the interfering enzymes but does not bind luciferase. As shown by adenylate kinase activity determination and sodium dodecyl sulfate polyacrylamide gel electrophoretic examination of the resultant preparation, partial purification of luciferase was successful in giving a preparation without interfering enzymes.

3/7/5 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

74050386 CA: 74(11)50386d JOURNAL
Thin-layer starch-gel electrophoresis for determining adenylate kinase types with blood stains
AUTHOR(S): Oepen, Ion; Dure, V.
LOCATION: Inst. Rechtsmed., Univ. Marburg, Marburg, Ger.
JOURNAL: Aerztl. Lab. DATE: 1970 VOLUME: 16 NUMBER: 12 PAGES: 383-7
CODEN: AELAAH LANGUAGE: German
SECTION:
CA806000 Biochemical Methods
IDENTIFIERS: starch gel electrophoresis, adenylate kinase blood typing
DESCRIPTORS:
Blood,analysis...
adenylate kinase isoenzymes detection in blood stains
Kinases (phosphorylating)...
isoenzymes, detection in blood stains

3/7/6 (Item 1 from file: 434)
DIALOG(R)File 434:SciSearch(R)

13801140 Genuine Article#: QR254 Number of References: 30
Title: FIREFLY LUCIFERASE PURIFICATION USING POLYETHYLENE-GLYCOL AND DYEMATREX-ORANGE-A
Author(s): BELINGA HF; STEGHENS JP; COLLOMBEL C
Corporate Source: HOP EDOUARD HERRIOT,BIOCHIM LAB C,5 PL ARSONVAL/F-69437 LYON 03//FRANCE/
Journal: JOURNAL OF CHROMATOGRAPHY A, 1995, V695, N1 (MAR 24), P33-40
ISSN: 0021-9673
Language: ENGLISH Document Type: ARTICLE
Abstract: Efficient measurement of adenosine triphosphate by bioluminescence depends on the quality of firefly luciferase used. A rapid purification of this enzyme is reported that permits removal of enzymes interfering in the bioluminescent reaction. The enzyme was extracted from firefly tails and precipitated with PEG 20 000, and the resulting pellet was subjected to chromatography on a Dyematrex gel (Orange A), which retains the interfering enzymes but does not bind luciferase. As shown by adenylate kinase activity determination and sodium dodecyl sulfate polyacrylamide gel electrophoretic examination of the resultant preparation, partial purification of luciferase was successful in giving a preparation without interfering enzymes.
?s s2 and fluoresc?
96 S2
1041436 FLUORESC?
S4 6 S2 AND FLUORESC?
?t s4/7/1-6

4/7/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09093870 95023870
The closed conformation of a highly flexible protein: the structure of E. coli adenylate kinase with bound AMP and AMPPNP.
Berry MB; Meador B; Bilderback T; Liang P; Glaser M; Phillips GN Jr
W.M. Keck Center for Computational Biology, Rice University, Houston, Texas 77251-1892.
Proteins (UNITED STATES) Jul 1994, 19 (3) p183-98, ISSN 0887-3585
Journal Code: PTS

Contract/Grant No.: AR32764, AR, NIAMS
Languages: ENGLISH
Document type: JOURNAL ARTICLE

The structure of E. coli adenylate kinase with bound AMP and AMPPNP at 2.0 A resolution is presented. The protein crystallizes in space group C2 with two molecules in the asymmetric unit, and has been refined to an R factor of 20.1% and an Rfree of 31.6%. In the present structure, the protein is in the closed (globular) form with the large flexible lid domain covering the AMPPNP molecule. Within the protein, AMP and AMPPNP, and ATP analog, occupy the AMP and ATP sites respectively, which had been suggested by the most recent crystal structure of E. coli adenylate kinase with Ap5A bound (Muller and Schulz, 1992, ref. 1) and prior fluorescence studies (Liang et al., 1991, ref. 2). The binding of substrates and the positions of the active site residues are compared between the present structure and the E. coli adenylate kinase/Ap5A structure. We failed to detect a peak in the density map corresponding to the Mg2+ ion which is required for catalysis, and its absence has been attributed to the use of ammonium sulfate in the crystallization solution. Finally, a comparison is made between the present structure and the structure of the heavy chain of muscle myosin.

4/7/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07508758 91027758

Fluorescence and NMR investigations on the ligand binding properties of adenylate kinases [published erratum appears in Biochemistry 1990 Dec 4;29(48):10864]

Reinstein J; Vetter IR; Schlichting I; Rosch P; Wittinghofer A; Goody RS
Abteilung Biophysik, Max-Planck-Institut fur medizinische Forschung, Heidelberg, West Germany.

Biochemistry (UNITED STATES) Aug 14 1990, 29 (32) p7440-50, ISSN 0006-2960 Journal Code: A0G
Languages: ENGLISH
Document type: JOURNAL ARTICLE

A new system for measurement of affinities of adenylate kinases (AK) for substrates and inhibitors is presented. This system is based on the use of the fluorescent ligand alpha,omega-di[(3' or 2')-O-(N-methylanthraniloyl)adenosine-5'] pentaphosphate (mAP5Am), which is an analogue of the bisubstrate inhibitor diadenosine pentaphosphate (AP5A). It allows the determination of dissociation constants for any ligand in the range of 1 x 10(-9) to 5 x 10(-2) M. Affinities for different bisubstrate inhibitors (AP4A, AP5A, AP6A) and substrates (AMP, ADP, ATP, GTP) were determined in the presence and absence of magnesium. An analysis of the binding of bisubstrate inhibitors is proposed and applied to these data. The techniques are used to describe the properties of a mutant enzyme with Gln-28----His (Q28H) prepared by site-directed mutagenesis in comparison to those of wild-type AK from Escherichia coli. This newly introduced histidine is already present in most other adenylate kinases and was regarded to be important or even essential for the catalytic reaction of AK. Temperature denaturation experiments indicate that the mutant enzyme has the same thermal stability as the wild-type enzyme and, as NMR studies indicate, also a very similar structure. However, steady-state catalytic studies and binding experiments showed that the affinities for substrates and inhibitors are elevated from 3-fold (AMP) to 5-fold (ATP) to 15-fold (AP5A) compared to those of the wild-type enzyme. Together with the results obtained by Tian et al. [Tian, G., Sanders, C. R., Kishi, F., Nakazawa, A., & Tsai, M.-D. (1988) Biochemistry 27, 5544-5552] on the effect of

replacement of the conserved His-36 in the cytosolic AK (AK1) from chicken by glutamine and asparagine, this shows that residues 28 of AK from E. coli (AKec) and 36 of AK1 are situated in a comparable environment and are not essential for catalytic activity.

4/7/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03571375 78205375
Fluorometric microassays of adenylate kinase, an enzyme important in energy metabolism.
Borglund E; Brolin SE; Agren A
Ups J Med Sci (SWEDEN) 1978, 83 (2) p81-4, ISSN 0300-9734
Journal Code: WRG
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The adenylate kinase system offers a mechanism for the rapid provision of energy by catalysing the production of ATP from ADP. Fluormetric micromethods were developed for determination of the activity of this enzyme using either formation of ADP or ATP, in each case measured by coupling to suitable dehydrogenase reactions. Both procedures yielded results in good agreement, but when ADP formation was measured an interfering phosphatase splitting of ATP had to be corrected for. Therefore, ADP was preferred as the substrate and its conversion to ATP was determined in a coupled hexokinase-glucose-6-phosphate dehydrogenase reaction yielding stoichiometric amounts of NADPH which were measured by the native fluorescence of this form of the nucleotide. The sensitivity and reproducibility of our micro-method permitted assay of small samples (50-500 ng) such as a layer of cerebellar cortical nerve cells and of insulin producing cells from the islets of Langerhans. Although not reaching the high values in muscle, these cells showed significantly higher activities than parenchymatous cells from the liver and the exocrine pancreas. The sensitivity attained is more than required for assay of clinical fine needle biopsies and is quite satisfactory for detection and estimation of adenylate kinase contaminants in enzyme preparations.

4/7/4 (Item 1 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

2517440 BIOSIS Number: 66064345
FLUOROMETRIC MICRO ASSAYS OF ADENYLATE KINASE EC-2.7.4.3 AN ENZYME IMPORTANT IN ENERGY METABOLISM
BORGLUND E; BROLIN S E; AGREN A
DEP. HISTOL., UNIV. UPPS., BOX 571, S-751 23 UPPSALA, SWED.
UPS J MED SCI 83 (2). 1978 81-84. CODEN: UJMSA
Language: ENGLISH
The adenylate kinase [EC 2.7.4.3] system offers a mechanism for the rapid provision of energy by catalyzing the production of ATP from ADP. Fluorometric micromethods were developed for determination of the activity of this enzyme using either formation of ADP or ATP, in each case measuring either formation of ADP or ATP, in each case measured by coupling to suitable dehydrogenase reactions. Both procedures yielded results in good agreement, but when ADP formation was measured an interfering phosphatase splitting of ATP had to be corrected for. ADP was preferred as the substrate and its conversion to ATP was determined in a coupled hexokinase-G-6-P dehydrogenase reaction yielding stoichiometric amounts of

NADPH which were measured by the native fluorescence of this form of the nucleotide. The sensitivity and reproducibility of this micro-method permitted assay of small samples (50-500 ng) such as a layer of mouse cerebellar cortical nerve cells and of insulin producing cells from the islets of Langerhans. Although not reaching the high values in muscle, these cells showed significantly higher activities than parenchymatous cells from the liver and the exocrine pancreas. The sensitivity attained is more than required for assay of clinical fine needle biopsies and is quite satisfactory for detection and estimation of adenylate kinase contaminants in enzyme preparations.

4/7/5 (Item 1 from file: 103)
DIALOG(R)File 103:Energy SciTec

03299381 EDB-92-062138
Title: Cellular energy metabolism
Author(s)/Editor(s): Glaser, M.
Corporate Source: Illinois Univ., Urbana, IL (United States). Dept. of Biochemistry
Sponsoring Organization: DOE USDOE, Washington, DC (United States)
Publication Date: Jun 1991 (11 p)
Report Number(s): DOE/ER/13710-T1
Order Number: DE92009045
Contract Number (DOE): FG02-87ER13710
Language: In English
Availability: OSTI; NTIS; GPO Dep.
Abstract: Studies have been carried out on adenylate kinase which is an important enzyme in determining the concentrations of the adenine nucleotides. An efficient method has been developed to clone mutant adenylate kinase genes in E. coli. Site-specific mutagenesis of the wild type gene also has been used to obtain forms of adenylate kinase with altered amino acids. The wild type and mutant forms of adenylate kinase have been overexpressed and large quantities were readily isolated. The kinetic and fluorescence properties of the different forms of adenylate kinase were characterized. This has led to a new model for the location of the AMP and ATP bindings sites on the enzyme and a proposal for the mechanism of substrate inhibition. Crystals of the wild type enzyme were obtained that diffract to at least 2.3 {angstrom} resolution. Experiments were also initiated to determine the function of adenylate kinase in vivo. In one set of experiments, E. coli strains with mutations in adenylate kinase showed large changes in cellular nucleotides after reaching the stationary phase in a low phosphate medium. This was caused by selective proteolytic degradation of the mutant adenylate kinase caused by phosphate starvation.

4/7/6 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1614795 NTIS Accession Number: DE92009045/XAB
Cellular energy metabolism. Final technical report, May 1, 1987--April 30, 1991
(Progress rept)
Glaser, M.
Illinois Univ. at Urbana-Champaign. Dept. of Biotechnology.
Corp. Source Codes: 034597006; 3116900
Sponsor: Department of Energy, Washington, DC.

Report No.: DOE/ER/13710-T1
Jun 91 11p
Languages: English
Journal Announcement: GRAI9218; ERA9237
Sponsored by Department of Energy, Washington, DC.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: FG02-87ER13710

Studies have been carried out on adenylate kinase which is an important enzyme in determining the concentrations of the adenine nucleotides. An efficient method has been developed to clone mutant adenylate kinase genes in E. coli. Site-specific mutagenesis of the wild type gene also has been used to obtain forms of adenylate kinase with altered amino acids. The wild type and mutant forms of adenylate kinase have been overexpressed and large quantities were readily isolated. The kinetic and fluorescence properties of the different forms of adenylate kinase were characterized. This has led to a new model for the location of the AMP and ATP bindings sites on the enzyme and a proposal for the mechanism of substrate inhibition. Crystals of the wild type enzyme were obtained that diffract to at least 2.3 (angstrom) resolution. Experiments were also initiated to determine the function of adenylate kinase in vivo. In one set of experiments, E. coli strains with mutations in adenylate kinase showed large changes in cellular nucleotides after reaching the stationary phase in a low phosphate medium. This was caused by selective proteolytic degradation of the mutant adenylate kinase caused by phosphate starvation.

?s s2 and (erythrocyte? ? or red(3w)cell? ?)
Processing
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Processed 20 of 21 files ...
Completed processing all files
96 S2
564021 ERYTHROCYTE? ?
817033 RED
10233212 CELL? ?
260602 RED(3W)CELL? ?
S5 12 S2 AND (ERYTHROCYTE? ? OR RED(3W)CELL? ?)
?t s5/7/1-12

5/7/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06831735 89133735
The effect of hemolysis on creatine kinase determination [see comments]
Greenson JK; Farber SJ; Dubin SB
Department of Pathology and Laboratory Medicine, Cedars-Sinai Medical Center, Los Angeles, CA 90048.
Arch Pathol Lab Med (UNITED STATES) Feb 1989, 113 (2) p184-5, ISSN 0003-9985 Journal Code: 79Z
Comment in Arch Pathol Lab Med 1992 Jan;116(1):7-8
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Hemolysis can cause falsely elevated creatine kinase (CK) values when spectrophotometric methods of measurement are used. This apparent increase

in CK is due to the red blood cell enzyme adenylate kinase. In an attempt to reduce this interference, most commercial CK kits employ adenosine monophosphate and/or diadenosine pentaphosphate as adenylate kinase inhibitors. To determine whether hemolyzed specimens should be accepted for testing, we measured the CK values of 26 serum samples, each with six different concentrations of added hemolysate. The results showed that hemolysis had an additive effect on CK, with an average increase in CK of approximately 10 U/L for every 1 g/L of hemoglobin. In most settings, this increase is not clinically significant. In the case of massive hemolysis, the hemoglobin concentration of the serum can be measured to correct the apparent CK value. The exclusion of hemolyzed specimens is unnecessary.

5/7/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06662917 88307917
Activity staining of blotted enzymes by reaction coupling with transfer membrane-immobilized auxiliary enzymes.
Sock J; Rohringer R
Research Station, Agriculture Canada, Winnipeg, Manitoba.
Anal Biochem (UNITED STATES) Jun 1988, 171 (2) p310-9, ISSN 0003-2697 Journal Code: 4NK
Languages: ENGLISH
Document type: JOURNAL ARTICLE
A blotting method is described to detect enzymes that do not normally yield a colored product. The method can be used for dot blotting as well as blotting after gel electrophoresis of many enzymes if the reactions they catalyze can be coupled to an oxidase or a dehydrogenase. The latter, designated "auxiliary enzymes," are preimmobilized on membranes of nitrocellulose or positively charged nylon and the reaction they catalyze is coupled with reduction of tetrazolium salt to yield colored formazan on areas of the transfer membrane occupied by the blotted enzymes. In the examples reported here, preimmobilized glucose oxidase, L-amino acid oxidase, xanthine oxidase, malate dehydrogenase, and a mixture of hexokinase and glucose-6-phosphate dehydrogenase were used as auxiliary enzymes to detect blotted invertase, leucine aminopeptidase, purine nucleoside phosphorylase, fumarase, and adenylate kinase, respectively. Detection limits varied, but never exceeded 100 ng for these enzymes. After blotting from polyacrylamide gels, the fumarase assay was the most sensitive of those investigated, detecting 10 ng of enzyme used for electrophoresis. Invertase, a glycoprotein, was detected with higher sensitivity on nitrocellulose membranes when concanavalin A was present on the membrane in addition to the auxiliary enzyme, glucose oxidase. On blots from isoelectric focusing gels, the assay detected two isozymes of purine nucleoside phosphorylase in a sample from calf spleen and at least five isozymes of this enzyme in lysates from human red cells.

5/7/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05365246 84289246
Leakage of adenylate kinase from stored blood cells.
Olsson T; Gulliksson H; Palmeborn M; Bergstrom K; Thore A
J Appl Biochem (UNITED STATES) Dec 1983, 5 (6) p437-45, ISSN 0161-7354 Journal Code: HEA
Languages: ENGLISH

Document type: JOURNAL ARTICLE
The bioluminescent firefly luciferase assay for ATP was used to measure adenylate kinase activity in plasma. The formation of ATP from ADP was measured continuously in a coupled assay using a luminometer. Optimal analytical conditions were determined for the coupled reaction. The assay was used to follow accumulation of adenylate kinase in plasma of different preparations of stored red blood cells. Adenylate kinase was found to be released concomitantly with hemoglobin during aging. There was a high degree of correlation between the amount of accumulated hemoglobin and adenylate kinase. The assay was also used to measure lysis of stored platelets during aging.

5/7/4 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03754580 79131580
Determination of adenylate kinase variants in two Washington, D.C., population samples: a microcellulose acetate procedure.
Stombaugh PM Jr; Kearney JJ
J Forensic Sci (UNITED STATES) Jul 1977, 22 (3) p590-5, ISSN 0022-1198 Journal Code: I5Z
Languages: ENGLISH
Document type: JOURNAL ARTICLE

5/7/5 (Item 5 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

02847455 76028455
[Elimination and excretion of adenylate kinases following cell damage]
Elimination and Exkretion von Adenylatkinasen nach Zellschadigungen
Sachsenheimer W; Goody RS; Schirmer RH
Klin Wochenschr (GERMANY, WEST) Jul 1 1975, 53 (13) p617-22, ISSN 0023-2173 Journal Code: KWH
Languages: GERMAN Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
Adenylate kinases, small organ-specific isoenzymes which appear after tissue damage in the blood plasma are partly eliminated via the kidney. After intravenous administration of 3000 enzyme units of 14C-labelled adenylate kinase to rats, about 50% of the enzyme and of the radioactivity are found in the urine within 7 minutes. The elimination of adenylate kinase from the serum occurs in two phases, a faster (half-life 16 minutes) and a slower (half-life 160 minutes). After intravenous adminstration of adenylate kinase to humans, a part of the activity was recovered in the urine within minutes. The potential use of assaying adenylate kinase levels for early diagnosis of myocardial infarction is discussed. Using various skeletal muscle diseases as examples, the possible use of the very rapid elimination of adenylate kinase from the serum in monitoring the course of the acute illnesses is described. The competitive inhibitor diadenosine pentaphosphate (AP5A) has a much higher affinity for the adenylate kinases from erythrocytes, heart or skeletal muscle than for the isoenzymes from liver or kidney. Therefore, AP5A can be used for the differential determination of adenylate kinase isoenzymes in the blood plasma or the urine.

5/7/6 (Item 6 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

01519262 71064262
Determination of adenylate kinase phenotypes employing agar gel.
Skude G; Jakobsson A
Hum Hered (SWITZERLAND) 1970, 20 (3) p319-24, ISSN 0001-5652
Journal Code: GE9
Languages: ENGLISH
Document type: JOURNAL ARTICLE

5/7/7 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

817455 EMBASE No: 77200490
Agarose thin layer electrophoresis for the determination of red cell adenylate kinase (EC 2.7.4.3) polymorphisms
AGAROSE DUNNSCHICHT ELEKTROPHORESE ZUR BESTIMMUNG DER ERYTHROZYTAREN ADENYLATKINASE (EC 2.7.4.3) POLYMORPHISMEN
Tsuji T.; Weissmann J.
Abt. Rechtsmed., Med. Hochsch., Lubeck GERMANY, WEST
ARZTL.LAB. (GERMANY, WEST) , 1976, 22/11 (363-365) CODEN: AELAA
LANGUAGES: GERMAN
A simple method for the determination of AK phenotypes by means of agarose thin layer electrophoresis is reported and compared with the agar and CAM methods. Separation was excellent and the spots were well demarcated. The results were better than those obtained with the other two methods.

5/7/8 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

517660 EMBASE No: 93311892
Antipyrine congeners as antidepressant agents
Tripathi M.; Verma M.; Palit G.; Shanker K.
Dept. of Pharmacology/Therapeutics, King George's Medical College, Lucknow 226003 India
ARZNEIM.-FORSCH. DRUG RES. (Germany) , 1993, 43/10 (1045-1049) CODEN: ARZNA ISSN: 0004-4172
LANGUAGES: English SUMMARY LANGUAGES: English; German
1-(N-Antipyrinylglycyl)-3-arylideneamino)-2-thiobarbituric acids (III) were synthesized from 1-arylidene-4-(N-antipyrinyl glycyl)-3-thiosemicarbazones (II). Compounds II in turn were prepared from 4-amino antipyrine. Compounds III were finally converted into 1-(N-antipyrinylglycyl)-3-((3'-chloro-4-aryl) azitidinyl)-2-thiobarbituric acids (IV). 4-Aminoantipyrine was also treated with different N-protected amino acids in the presence of N,N'-dicyclohexylcarbodiimide to yield N-(antipyrinylcarbamoyl) substituted alkyl benzamides (V); their debenzoylation yielded 2-(amino-N-antipyrinyl) substituted acetamides (VI). The compounds were screened for their antidepressant activity. Compounds IIId, Va and Vb exhibited activity better than imipramine with less toxicity (ALD50 > 1000 mg/kg).

5/7/9 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

324416 EMBASE No: 75117153
Formation of 5' nucleotides of 6 methylmercaptopurine ribonucleoside in human tissues in vitro
Zimmerman T.P.; Chu L.C.; Bugge C.J.L.; et al.
Wellcome Res. Lab., Research Triangle Park, N.C. 27709 USA
BIOCHEM.PHARMACOL. (ENGLAND) , 1974, 23/19 (2737-2749) CODEN: BCPCA
LANGUAGES: ENGLISH
The recent finding that 6 methylmercaptopurine ribonucleoside 5' triphosphate (MMPR 5' TP) is a human metabolite of 6 mercaptopurine and azathioprine has prompted a re examination of the metabolism of 6 methylmercaptopurine ribonucleoside (MMPR) in vitro. Human whole blood, peripheral leukocytes and nucleated marrow cells were incubated with MMPR for times as long as 22 hr. Examination of the acid soluble extracts of these tissues by high pressure anion exchange chromatography demonstrated that the 5' mono-, di- and triphosphates of MMPR were formed in all 3 of these human cell types. As reported previously by others, MMPR (0.2 to 0.9 mM) was taken up rapidly and nearly quantitatively by human blood cells, where it accumulated predominantly as 6 methylmercaptopurine ribonucleoside 5' monophosphate (MMPR 5' P). Intracellular concentrations of MMPR 5' TP as high as 2 mumoles/ml of packed erythrocytes were subsequently maintained with little diminution for several hr, during which time MMPR 5' TP was formed at a linear rate. Relative to MMPR 5' TP, little of the analog nucleoside 5' diphosphate accumulated during these incubations. The rate of phosphorylation of MMPR 5' P was shown to be a function of its intracellular concentration and an apparent K(m) of 5.1 mM was estimated with intact erythrocytes. The accumulation of MMPR nucleotides had no discernible effect on the adenosine triphosphate (ATP) or guanosine triphosphate (GTP) pools of erythrocytes. The metabolism of MMPR in human leukocytes and marrow cells appeared to be similar in nature to that observed in erythrocytes. In contrast to erythrocytes, however, leukocytes and marrow cells manifested large (35 to 85%) decreases in their ATP and GTP pools during incubation with MMPR. Evidence is presented that adenylate kinase (EC 2.7.4.3) is responsible for the phosphorylation of MMPR 5' P in human erythrocytes.

5/7/10 (Item 4 from file: 73)
DIALOG(R)File 73:EMBASE

222620 EMBASE No: 75010938
Determination of the enzymatic polymorphisms of red cells: Adenosine deaminase (ADA), adenylate kinase (AK), phosphoglucomutase (PGM), and 6 phosphogluconate dehydrogenase (6 PGD) using cellulose acetate foil electrophoresis
DIE BESTIMMUNG DER ERYTHROCYTAREN ENZYMPOLYMORPHISMEN: ADENOSINDESAMINASE (ADA), ADENYLATKINASE (AK), PHOSPHOGLUCOMUTASE (PGM) UND 6 PHOSPHOGLUCONAT DEHYDROGENASE (6 PGD) MIT DER CELLULOSEACETAT FOLIEN ELEKTROPHORESE
Sonneborn H.H.
Biotest Serum Inst. GmbH, Frankfurt/M. GERMANY, WEST
BIOTEST MITT. (--) , 1972, No.29 (33-47) CODEN: BTMLB
LANGUAGES: GERMAN
A method for determination of isoenzymes of adenosine deaminase, adenylate kinase, phosphoglucomutase and 6 phosphogluconate dehydrogenase by cellulose acetate foil electrophoresis is described. Its advantages are technical simplicity, a short electrophoresis time (90 min at room temperature) and recording of results on the foils themselves.

5/7/11 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

101106156 CA: 101(13)106156z JOURNAL
A general method for visualizing enzymes releasing adenosine or adenosine-5'-monophosphate
AUTHOR(S): Friedrich, Christopher A.; Chakravarti, Shukti; Ferrell, Robert E.
LOCATION: Grad. Sch. Biomed. Sci., Univ. Texas, Houston, TX, 77025, USA
JOURNAL: Biochem. Genet. DATE: 1984 VOLUME: 22 NUMBER: 5-6 PAGES: 389-94 CODEN: BIGEBA ISSN: 0006-2928 LANGUAGE: English
SECTION:
CA107001 Enzymes
IDENTIFIERS: histochem detection adenosine AMP releasing enzyme, adenylate kinase histochem detection, adenosylhomocysteinase histochem detection, staining adenosine AMP releasing enzyme
DESCRIPTORS:
Enzymes,adenosine-releasing... Enzymes,adenylic acid-releasing...
histochem. detection of
Staining,biological...
of adenosine- and AMP-releasing enzymes
CAS REGISTRY NUMBERS:
9025-54-1 histochem. detection of, in human and animal tissues
9013-02-9 histochem. detection of, in human erythrocytes

5/7/12 (Item 1 from file: 305)
DIALOG(R)File 305:Analytical Abstracts Online

213571 AA Accession No.: 56-05-F-00290 DOC. TYPE: Journal
Simplified method for the determination of phosphoribosylpyrophosphate synthetase activity in haemolysates.
AUTHOR: Torres, R. J.; Mateos, F. A.; Puig, J. G.; Becker, M. A.
CORPORATE SOURCE: Clinical Biochem. Section, La Paz Univ. Hospital, Madrid, Spain
JOURNAL: Clin. Chim. Acta, Volume: 224, Issue: 1, Page(s): 55-63
CODEN: CCATAR ISSN: 0009-8981
PUBLICATION DATE: 14 Jan 1994 (940114) LANGUAGE: English
ABSTRACT: Haemolysates (0.1 ml; prep. described) were mixed with activated charcoal (2.7 mg in 0.9 ml of H2O) for 15 min at 0.degree.C. After centrifugation, a portion (100 .mu.l) of the supernatant soln. was incubated for 20 min at 37.degree.C with 1.9 ml of a pH 7.4 reaction mixture containing 50mM-Tris hydrochloride, 5mM-MgCl2, 1mM-EDTA, 0.4mM-dithiothreitol, 0.5mM-ATP, 0.35mM-ribose 5-phosphate, 32mM-Na2PO4 and 0.25mM-P1,P5-di(adenosine-5')pentaphosphate (I) and the reaction was terminated by adding 0.1M-EDTA (0.2 ml). The mixture was centrifuged in Amicon cones (30 000 mol. wt. cut off) and the filtrate was analysed by HPLC on a .mu.Bondapak C18 column with 0.2mM-KH2PO4 of pH 6 as mobile phase (1.3 ml/min) and detection at 254 nm. Adenylate kinase activity was fully inhibited by I, allowing ribophosphate pyrophosphokinase (ribose-phosphate pyrophosphokinase) activity to be expressed as nmol of AMP generated per h. The calibration graph for AMP was linear for up to 250 .mu.l of haemolysate and up to 50 min incubation time with intra- and inter-assay RSD of 2.7 and 3.4%, respectively. The results agreed well with those obtained using a two-step assay (described).
?

s (hemolyzed or hemolysis or hemoglobin)(P)(adenylate(w)kinase)
298 HEMOLYZED
1938 HEMOLYSIS
4116 HEMOGLOBIN
605 ADENYLATE
3846 KINASE
L1 4 (HEMOLYZED OR HEMOLYSIS OR HEMOGLOBIN)(P)(ADENYLATE(W)KINAS
E)

=> d 1-4

1. 5,032,501, Jul. 16, 1991, DNA probes to vntr loci; Eric C. B. Milner, 435/6; 536/24.3, 24.31; 935/77, 78 [IMAGE AVAILABLE]

2. 4,912,033, Mar. 27, 1990, Creatine kinase MB determination method; Jack H. Ladenson, et al., 435/7.4, 172.2, 240.27; 436/548; 530/388.25, 388.26, 808, 809; 935/103, 110 [IMAGE AVAILABLE]

3. 4,810,639, Mar. 7, 1989, Immunoassay for CK-MB using bound and soluble antibodies; Thomas J. Pankratz, 435/7.4, 174 [IMAGE AVAILABLE]

4. 4,297,274, Oct. 27, 1981, Protein from red blood cells and process for isolating it; Hans Bohn, et al., 530/389.6; 424/533; 436/543; 530/394, 414, 806, 829, 830 [IMAGE AVAILABLE]

=> d kwic 4

US PAT NO: 4,297,274 [IMAGE AVAILABLE] L1: 4 of 4

SUMMARY:

BSUM(2)

It is known that the lysate of human erythrocytes contains, in addition to its main constituent, i.e. the hemoglobin , a great number of enzymes the enzyme activity of which has been well and thoroughly investigated. Among those are carboanhydrase B, carboanhydrase C, superoxide-dismutase, catalase, lactate dehydrogenase, glutathione-reductase, acidic phosphatase, glucose-6-phosphate-dehydrogenase, 6-phosphoglutonate-dehydrogenase, glucose-6-phosphatisomerase, phosphoglucomutase, phospho-glycerate kinase, adenylate kinase , as well as a protein which combines in itself the three enzyme activities 2,3-di-phosphoglycerate mutase, 2,3-di-phosphoglycerate phosphatase and phosphoglycero-metase. Some of them have been isolated.

=> s (erythrocyte# or red(3w)cell#)(20a)(adenylate(w)kinase)
4572 ERYTHROCYTE#
119360 RED
200821 CELL#
605 ADENYLATE
3846 KINASE
L2 4 (ERYTHROCYTE# OR RED(3W)CELL#)(20A)(ADENYLATE(W)KINASE)

=> d 1-4

1. 5,032,501, Jul. 16, 1991, DNA probes to vntr loci; Eric C. B. Milner, 435/6; 536/24.3, 24.31; 935/77, 78 [IMAGE AVAILABLE]

2. 4,912,033, Mar. 27, 1990, Creatine kinase MB determination method;

Jack H. Ladenson, et al., 435/7.4, 172.2, 240.27; 436/548; 530/388.25, 388.26, 808, 809; 935/103, 110 [IMAGE AVAILABLE]

3. 4,220,714, Sep. 2, 1980, Composition for inhibiting adenylate-kinase and its use; Franco Meiattini, et al., 435/17, 26, 184 [IMAGE AVAILABLE]

4. 4,130,471, Dec. 19, 1978, Microelectrophoretic apparatus and process; Robert A. Administrator of the National Aeronautics and Space Administration, with respect to an invention of Frosch, et al., 204/462, 466, 469, 546, 616; 436/86, 87, 516, 808 [IMAGE AVAILABLE]

=> d kwic 3

US PAT NO: 4,220,714 [IMAGE AVAILABLE] L2: 3 of 4

DETDESC:

DETD(2)

FIG. 1 shows the effect of AMP on the activity of the adenylate kinase of erythrocyte origin. The ordinates report the percentage of the Ak inhibition, and the abscissae report the concentrations in millimols per liter, of AMP.

DETDESC:

DETD(10)

FIG. 4 shows the effect of AMP plus the fluoride on the activity of the adenylate kinase from erythrocytes .

DETDESC:

DETD(15)

FIG. 5 shows the effect of AMP plus fluoride on the activity of adenylate kinase from erythrocytes . The three curves are referred:

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FILE 'JPOABS' ENTERED AT 10:32:41 ON 02 APR 96

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  *     J A P A N E S E   P A T E N T   A B S T R A C T S     *
  *                                                           *
  * CURRENTLY, DATA IS LOADED THROUGH THE ABSTRACT PUBLICATION *
  * DATE OF DECEMBER 26, 1994                                 *
  * THE LATEST GROUPS RECEIVED ARE: C1292 E1651, M1731 & P1851. *
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     (FILE 'USPAT' ENTERED AT 10:27:39 ON 02 APR 96)
L1             4 S (HEMOLYZED OR HEMOLYSIS OR HEMOGLOBIN)(P)(ADENYLATE(W)KI
NAS
               SET KWIC 50
L2             4 S (ERYTHROCYTE# OR RED(3W)CELL#)(20A)(ADENYLATE(W)KINASE)

     FILE 'JPOABS' ENTERED AT 10:32:41 ON 02 APR 96
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L3 0 S L1 OR L2

=> log y
U.S. Patent & Trademark Office LOGOFF AT 10:33:14 ON 02 APR 96

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rf
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   S ((HEMOLYZED OR HEMOLYSIS OR HEMOGLOBIN)(25N)(ADENYLATE(W)KINASE)) AND
( (ERYTHROCYTE? ? OR RED(3W)CELL? ?)(20N)(ADENYLATE(W)KINASE) )
Ref        Items   File
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N1            11     5: BIOSIS PREVIEWS(R)_1969-1996/Mar W4
N2             9    73: EMBASE_1974-1996/Iss 12
N3             9   155: MEDLINE(R)_1966-1996/May W4
N4             2   144: Pascal_1973-1996/Mar
N5             2   654: US PAT.FULL._1990-1996/Mar 26
N6             1    76: Life Sciences Collection_1982-1996/Feb
N7             1    86: MENTAL HEALTH ABSTRACTS_1969-1996/Feb
N8             1   103: Energy SciTec_1974-1996/Feb B2
N9             1   399: CA SEARCH(R)_1967-1996/UD=12414
N10            1   434: SciSearch(R)_1974-1996/Mar W2
   12 files have one or more items; file list includes 171 files.

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   S ((HEMOLYZED OR HEMOLYSIS OR HEMOGLOBIN)(25N)(ADENYLATE(W)KINASE)) AND
( (ERYTHROCYTE? ? OR RED(3W)CELL? ?)(20N)(ADENYLATE(W)KINASE) )
Ref        Items   File
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N11            1   440: Current Contents Search(R)_1990-1996/Apr W1
N12            1   652: US Patents Fulltext_1971-1979
N13            0     2: INSPEC_1969-1996/Mar W4
N14            0     6: NTIS_64-1996/May W4
N15            0     8: Ei Compendex*Plus(TM)_1970-1996/May W2
N16            0     9: Business & Industry(TM)_Jul 1994-1996/Apr 01
N17            0    10: AGRICOLA_70-1996/Mar
N18            0    14: Mechanical Engineering Abs_1973-1996/Apr
N19            0    16: IAC PROMT(R)_1972-1996/Apr 02
N20            0    18: IAC F&S INDEX(R)_1980-1996/MarW1
   12 files have one or more items; file list includes 171 files.

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?save temp
Temp SearchSave "TB435" stored
?t s1/5/1-11

 1/5/1     (Item 1 from file: 5)
DIALOG(R)File   5:BIOSIS PREVIEWS(R)
(c) 1996 BIOSIS. All rts. reserv.

11071591     BIOSIS Number: 97271591
  Enhanced oxygen availability during high intensity intermittent exercise
decreases anaerobic metabolite concentrations in blood
  Balsom P D; Ekblom B; Sjodin B
  Karolinska Inst., Physiol. III, Box 5626, 114 86 Stockholm, SWE
  Acta Physiologica Scandinavica 150 (4). 1994.  455-456.
  Full Journal Title:  Acta Physiologica Scandinavica
  ISSN: 0001-6772
  Language: ENGLISH
  Print Number: Biological Abstracts Vol. 097 Iss. 012 Ref. 173141
Descriptors/Keywords: RESEARCH ARTICLE; HUMAN; LACTATE; ERYTHROPOIETIN;
  HEMOGLOBIN; ADENYLATE KINASE; GLYCOLYSIS; OXYGEN DELIVERY; HYPOXANTHINE;
  ATP; ANAEROBIC METABOLISM; AEROBIC METABOLISM; RED BLOOD CELL; MUSCLE
  CELL
```

Concept Codes:
*02508 Cytology and Cytochemistry-Human
*10510 Biophysics-Bioenergetics: Electron Transport and Oxidative Phosphorylation
*10808 Enzymes-Physiological Studies
*12010 Physiology, General and Miscellaneous-Exercise and Physical Therapy (1970-)
*13002 Metabolism-General Metabolism; Metabolic Pathways
*13003 Metabolism-Energy and Respiratory Metabolism
*13004 Metabolism-Carbohydrates
*13012 Metabolism-Proteins, Peptides and Amino Acids
*13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
*15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
*15008 Blood, Blood-Forming Organs and Body Fluids-Lymphatic Tissue and Reticuloendothelial System
*15504 Urinary System and External Secretions-Physiology and Biochemistry
*16004 Respiratory System-Physiology and Biochemistry
*17002 Endocrine System-General
*17504 Muscle-Physiology and Biochemistry
10012 Biochemistry-Gases (1970-)
10060 Biochemical Studies-General
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10065 Biochemical Studies-Porphyrins and Bile Pigments
10068 Biochemical Studies-Carbohydrates
Biosystematic Codes:
86215 Hominidae
Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

1/5/2 (Item 2 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

11068639 BIOSIS Number: 97268639
Adenylate kinase mimics creatine kinase-MM isoenzyme in a CK isoenzyme electrophoresis assay
Murthy V V
Special Chem. Lab., Room 2 South 11, N.R., Bronx Municipal Hosp. Cent., Bronx, NY 10461, USA
Journal of Clinical Laboratory Analysis 8 (3). 1994. 140-143.
Full Journal Title: Journal of Clinical Laboratory Analysis
ISSN: 0887-8013
Language: ENGLISH
Print Number: Biological Abstracts Vol. 097 Iss. 012 Ref. 170189
Adenylate kinase activity (AK) originating from erythrocytes, present in hemolyzed serum behaves like creatine kinase MM isoenzyme (CK-MM) in some CK electrophoresis assays that employ, in their visualization reagent kits, adenosine monophosphate (AMP) as the sole inhibitor of AK, rather than a combination of AMP and a more potent inhibitor of erythrocyte AK, diadenosine pentaphosphate (Ap5A), to inhibit all contaminating-AK activities in serum and quantify only the CK isoenzyme activities in serum following electrophoretic fractionation on agarose gel. This can spuriously overestimate the CK-MM fraction and thereby result in underestimation of CK-MM or CK-BB isoenzymes if present. A hemolyzed serum sample obtained from an elderly patient was erroneously reported as containing low CK-MB

due to such overestimation of CK-MM fraction in the sample. Supplementing the AMP already present in the visualization reagent formulation, used to estimate CK isoenzyme concentration in serum, with Ap5A can eliminate or effectively minimize AK interference, especially that caused by hemolysis, and thereby prevent reporting false-negative CK-MB result obtained with CK isoenzyme electrophoresis assays.
Descriptors/Keywords: RESEARCH ARTICLE; HUMAN; ERYTHROCYTES; AMP; DIADENOSINE PENTAPHOSPHATE; HEMOLYSIS
Concept Codes:
*10808 Enzymes-Physiological Studies
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
*15006 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
Biosystematic Codes:
86215 Hominidae
Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

1/5/3 (Item 3 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

7363525 BIOSIS Number: 89014544
BLOOD GENETIC MARKERS IN THE CHINESE OF TWO EASTERN PROVINCES
SAHA N
DEP. PAEDIATRICS, FAC. MED., NATL. UNIV. SINGAPORE, SINGAPORE 0511.
AM J PHYS ANTHROPOL 80 (3). 1989. 295-304. CODEN: AJPNA
Full Journal Title: American Journal of Physical Anthropology
Language: ENGLISH
A total of 205 Han Chinese from two eastern provinces (155 from Fujien and 50 from Hopeh) were tested for the distribution of six blood groups-A1A2BO, MN, Rhesus (CcDEe), Lewisa, Kell (Kk) and Fya-four serum proteins-albumin and haptoglobin types; transferrin and group-specific component subtypes-haemoglobin, and twelve red cell enzyme systems-glucose-6-phosphate dehydrogenase, 6-phosphogluconate dehydrogenase , lactate and malate dehydrogenases; acid phosphatase, esterate-D, glyoxalase I, adenylate kinase, glucose-phosphate isomerase, phosphoglucomutase (locus 2), and superoxide dismutase types; and phosphoglucomutase (locus 1) subtypes. The frequencies of blood groups were more or less within the reported frequencies in the Chinese. However the frequency of le was much lower in the present series. The Chinese are characterized by low p1, Ro, k, le, and a high Fya in general. P2 was lacking in the Chinese. There were some differences in the blood group frequencies in the two provinces. The frequencies of Hp alleles; Tf and Gc subtypes show characteristic mongoloid features with high Hp1, TfD, and GcIF. The frequency of TFC2 was higher in the Fujien province than that in Hopeh. At the hemoglobin locus only one Hb AD was detected, while the frequency of the .beta.-thalassemia trait was 0.03. No red cell G6PD deficiency or variant was detected. The distribution of red cell enzymes showed Mongoloid characteristics with low PGDC, AK2, ESD1, GLO1, and higher pa. PGM1 subtypes also had Mongoloid characteristics with lower PGM2+ and higher PGM2-. The phenotypic distribution of all the fifteen polymorphic loci was at Hardy-Weinberg equilibrium in both the Chinese populations.
Descriptors/Keywords: HUMAN HAN MONGOLOID BETA-THALASSEMIA BLOOD GROUP SERUM PROTEIN ALBUMIN HAPTOGLOBIN TRANSFERRIN HEMOGLOBIN MALATE DEHYDROGENASE GLUCOSE-6-PHOSPHATE DEHYDROGENASE 6 PHOSPHOGLUCONATE DEHYDROGENASE LACTATE DEHYDROGENASE ACID PHOSPHATASE ADENYLATE KINASE

ESTERASE-D GLYOXALASE I GLUCOSE-PHOSPHATE ISOMERASE PHOSPHOGLUCOMUTASE
SUPEROXIDE DISMUTASE ALLELIC FREQUENCY HARDY-WEINBERG EQUILIBRIUM
Concept Codes:
*03508 Genetics and Cytogenetics-Human
*03509 Genetics and Cytogenetics-Population Genetics (1972-)
*05000 Physical Anthropology; Ethnobiology
*13012 Metabolism-Proteins, Peptides and Amino Acids
*13013 Metabolism-Porphyrins and Bile Pigments
*13020 Metabolism-Metabolic Disorders
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
*15006 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies
*34506 Immunology and Immunochemistry-Immunohematology, Blood Groups
02508 Cytology and Cytochemistry-Human
04500 Mathematical Biology and Statistical Methods
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10065 Biochemical Studies-Porphyrins and Bile Pigments
10068 Biochemical Studies-Carbohydrates
15001 Blood, Blood-Forming Organs and Body Fluids-General; Methods
Biosystematic Codes:
86215 Hominidae
Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

1/5/4 (Item 4 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

7033878 BIOSIS Number: 87094399
THE EFFECT OF HEMOLYSIS ON CREATINE KINASE DETERMINATION
GREENSON J K; FARBER S J; DUBIN S B
DEP. PATHOL. LAB. MED., CLIN. CHEM. SECT., CEDARS-SINAI MED. CENT., 8700 BEVERLY BLVD., LOS ANGELES, CALIF. 90048.
ARCH PATHOL LAB MED 113 (2). 1989. 184-185. CODEN: APLMA
Full Journal Title: Archives of Pathology and Laboratory Medicine
Language: ENGLISH
Hemolysis can cause falsely elevated creatine kinase (CK) values when spectrophotometric methods of measurement are used. This apparent increase in CK is due to the red blood cell enzyme adenylate kinase. In an attempt to reduce this interference, most commercial CK kits employ adenosine monophosphate and/or diadenosine pentaphosphate as adenylate kinase inhibitors. To determine whether hemolyzed specimens should be accepted for testing, we measured the CK values of 26 serum samples, each with six different concentrations of added hemolysate. The results showed that hemolysis had an additive effect on CK, with an average increase in CK of approximately 10 U/L for every 1 g/L of hemoglobin. In most settings, this increase is not clinically significant. In the case of massive hemolysis, the hemoglobin concentration of the serum can be measured to correct the apparent CK value. The exclusion of hemolyzed specimens is unnecessary.
Descriptors/Keywords: HUMAN DIAGNOSIS MYOCARDIAL INFARCTION MUSCLE DISORDERS
Concept Codes:
*10006 Clinical Biochemistry; General Methods and Applications
*10808 Enzymes-Physiological Studies
*12504 Pathology, General and Miscellaneous-Diagnostic
*14506 Cardiovascular System-Heart Pathology
*15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
*17504 Muscle-Physiology and Biochemistry

*17506 Muscle-Pathology
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
15001 Blood, Blood-Forming Organs and Body Fluids-General; Methods
Biosystematic Codes:
86215 Hominidae
Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

1/5/5 (Item 5 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

5875847 BIOSIS Number: 84008412
BIOLOGY OF THE PEOPLE OF SIKKIM INDIA 1. STUDIES ON THE VARIABILITY OF GENETIC MARKERS
BHASIN M K; WALTER H; CHAHAL S M S; BHARDWAJ V; SUDHAKAR K; DANKER-HOPFE H; DANNEWITZ A; SINGH I P; BHASIN V; ET AL
DEP. ANTHROPLOGY, UNIV. DELHI, DELHI 110007, INDIA.
Z MORPHOL ANTHROPOL 77 (1). 1986 (RECD. 1987). 49-86. CODEN: ZMOAA
Full Journal Title: Zeitschrift fuer Morphologie und Anthropologie
Language: ENGLISH
13 population groups of Sikkim (North India)-Lepchas (2), Bhutias (2), Sherpas, Tamangs, Gurungs, Rais, Limboos (Subbas), Pradhans (Newars), Brahmins, Chhetris, Scheduled Castes-were analyzed for the distribution of 17 polymorphic system of the blood. A1A2BO, MNSs, Rhesus (C, c, D, E, e), Kell, Duffy, Kidd, haptoglobin, transferrin subtypes, Gc subtypes, Gm (1, 2, 5), Km (1), red cell acid phosphatase (aP), phosphoglucomutase (PGM1), 6-phosphogluconate dehydrogenase (6-PGD), esterase D (EsD), adenylate kinase (AK), and hemoglobin variants. In addition to this two samples-Lepchas and Bhutias of North Sikkim-could also be typed for Lutheran and Xg blood groups and for ABH secretion in saliva. The distribution of phenotype and allele frequencies shows a considerable interpopulational variability, which is discussed considering history and marriage relations to these populations. The average coefficient of gene diversity GST comes to 0.0351, whereas Wright's FST is 0.0257. These values are somewhat different from those obtained on other Indian populations. Genetic distance analysis revealed a cluster pattern, which reflects to a great extent the ethnohistoric relations among the populations under study.
Descriptors/Keywords: BLOOD GROUPS HAPTOGLOBIN TRANSFERRIN RED CELL ACID PHOSPHATASE PHOSPHOGLUCOMUTASE 6 PHOSPHOGLUCONATE DEHYDROGENASE ESTERASE D ADENYLATE KINASE HEMOGLOBIN SALIVA ETHNOHISTORY ANTHROPOLOGY
Concept Codes:
*03508 Genetics and Cytogenetics-Human
*05000 Physical Anthropology; Ethnobiology
*10006 Clinical Biochemistry; General Methods and Applications
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10065 Biochemical Studies-Porphyrins and Bile Pigments
10068 Biochemical Studies-Carbohydrates
10808 Enzymes-Physiological Studies
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
19001 Dental and Oral Biology-General; Methods
34506 Immunology and Immunochemistry-Immunohematology, Blood Groups
Biosystematic Codes:
86215 Hominidae
Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

1/5/6 (Item 6 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

5437671 BIOSIS Number: 82082474
BIOCHEMICAL POLYMORPHISMS IN THE BLOOD OF SPANISH COMMON AND SPANISH GIANT RABBIT BREEDS METHODOLOGICAL CONTRIBUTIONS AND GENETIC CONTROL
ZARAGOZA P; ARANA A; ZARAZAG I; AMORENA B
DEP. GENETICA MEJORA, FAC. VET., UNIV. ZARAGOZA, MIGUEL SERVET, 177, ZARAGOZA 50013.
GENET IBER 37 (1-2). 1985 (RECD. 1986). 107-134. CODEN: GEIBA
Full Journal Title: Genetica Iberica
Language: SPANISH
Electrophoretic and genetic studies in the rabbit species Orytolagus cunicolus were carried out in this work on 8 erythrocyte proteins: hemoglobin (Hb), adenylate kinase (Ak), tetrazolium oxidase (To), esterase 1 (Es-1), esterase 2 (Es-2), esterase 3 (Es-3), adenosine deaminase (Ada), 6-phosphogluconate dehydrogenase (6-Pgd); and a serum protein: Transferrin (Tf). A total of 228 was individuals was analysed belonging to two Spanish autoctonous breeds (Spanish common and Spanish giant). Of the 9 proteins studied in both breeds, three were found monomorphic (Hb, Ak, and To) and 5 polymorphic (Es-1, Es-2, Es-3, Ada and 6-Pgd). Each of these is controlled by one locus and shows a mendelian autosomal co-dominant inheritance. Three of these loci have two alleles (Es-1, Es-2 and 6-Pgd) and the other two have three alleles (Es-3 and Ada).
Descriptors/Keywords: ORYCTOLAGUS-CUNICULUS 6 PHOSPHOGLUCONATE DEHYDROGENASE ADENOSINE DEAMINASE ADENYLATE KINASE TETRAZOLIUM OXIDASE ESTERASE 1 ESTERASE 2 ESTERASE 3 HEMOGLOBIN ELECTROPHORESIS TRANSFERRIN
Concept Codes:
*02506 Cytology and Cytochemistry-Animal
*03506 Genetics and Cytogenetics-Animal
*10808 Enzymes-Physiological Studies
*13004 Metabolism-Carbohydrates
*13012 Metabolism-Proteins, Peptides and Amino Acids
*13013 Metabolism-Porphyrins and Bile Pigments
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10065 Biochemical Studies-Porphyrins and Bile Pigments
10068 Biochemical Studies-Carbohydrates
10504 Biophysics-General Biophysical Techniques
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
Biosystematic Codes:
86040 Leporidae
Super Taxa:
Animals; Chordates; Vertebrates; Nonhuman Vertebrates; Mammals; Nonhuman Mammals; Lagomorphs

1/5/7 (Item 7 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

4822555 BIOSIS Number: 79064870
HEREDITARY RED BLOOD CELL ENZYME DISORDERS 2. SCREENING METHODS AND PROCEDURES
VACA G; VELAZQUEZ A L; CANTU J M
INST. MEX. DEL SEGURO SOCIAL, CENTRO MED. OCCIDENTE, UNIDAD DE INVESTIGACION BIOMED., DIV. GENET., GUADALAJARA.

BOL OF SANIT PANAM 97 (4). 1984 (RECD. 1985). 336-349. CODEN: BOSPA
Full Journal Title: Boletin de la Oficina Sanitaria Panamericana
Language: SPANISH

Screening methods and procedures in a program for detecting red blood cell enzyme diseases are examined. The common denominator in 14 of the more than 20 different hereditary disorders of this type is hemolytic anemia, which makes it impossible to distinguish one disorder from another without conducting specific enzyme studies that are generally laborious and require the use of resources that are not available in every laboratory. New fluorescence enzyme screening procedures for detecting hereditary red blood cell diseases are presented. Since such procedures are based on the interdependence of the metabolic pathways, the integrity of multiple enzyme reactions may be established with a minimum number of tests. These procedures, used together with other reported screening procedures, provide the means for detecting hemolysis-related red blood cell enzyme disorders characterized by deficiency of adenylate kinase, hexokinase, G-6-P dehydrogenase, glucose phosphate isomerase, phosphofructokinase, aldolase, triose phosphate isomerase, phosphoglycerate kinase or pyruvate kinase. Because of its versatility, simplicity and economy, this methodology can be applied in laboratories with limited resources making it possible to screen 11 red blood cell enzyme diseases. Each screening method and procedure is described in depth, the results obtained with this methodology in the program for detecting hereditary red blood cell enzyme disorders are reported, and the different stages included in the detection and identification of hereditary red blood cell enzyme diseases are discussed briefly.

Descriptors/Keywords: HUMAN HEMOLYTIC ANEMIA ADENYLATE KINASE HEXOKINASE GLUCOSE-6-PHOSPHATE DEHYDROGENASE GLUCOSEPHOSPHATE ISOMERASE PHOSPHOFRUCTOKINASE ALDOLASE TRIOSE PHOSPHATE ISOMERASE PHOSPHOGLYCERATE KINASE PYRUVATE KINASE FLUORESCENCE ENZYME SCREENING

Concept Codes:
*03508 Genetics and Cytogenetics-Human
*10808 Enzymes-Physiological Studies
*13004 Metabolism-Carbohydrates
*13014 Metabolism-Nucleic Acids, Purines and Pyrimidines
*13020 Metabolism-Metabolic Disorders
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
*15006 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies
*37010 Public Health-Public Health Administration and Statistics
*37012 Public Health-Health Services and Medical Care
02508 Cytology and Cytochemistry-Human
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10068 Biochemical Studies-Carbohydrates
10504 Biophysics-General Biophysical Techniques
13003 Metabolism-Energy and Respiratory Metabolism

Biosystematic Codes:
86215 Hominidae

Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

1/5/8 (Item 8 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

4429414 BIOSIS Number: 78003237
METABOLIC COMPENSATION FOR PROFOUND ERYTHROCYTE ADENYLATE KINASE DEFICIENCY A HEREDITARY ENZYME DEFECT WITHOUT HEMOLYTIC ANEMIA
BEUTLER E; CARSON D; DANNAWI H; FORMAN L; KUHL W; WEST C; WESTWOOD B

DEP. BASIC AND CLIN. RES., SCRIPPS CLIN. AND RES. FOUND., LA JOLLA, CALIF. 92037.
J CLIN INVEST 72 (2). 1983. 648-655. CODEN: JCINA
Full Journal Title: Journal of Clinical Investigation
Language: ENGLISH
A child with hemolytic anemia was found to have severe erythrocyte adenylate kinase (AK) deficiency, but an equally enzyme-deficient sibling had no evidence of hemolysis. No residual enzyme activity was found in erythrocytes by spectrophotometric methods that could easily have detected 0.1% of normal activity. Concentrated hemolysates were shown to have the capacity to generate small amounts of ATP and AMP from ADP after prolonged incubation. Hemolysates could also catalyze the transfer of labeled .gamma.-phosphate from ATP to ADP. Intact erythrocytes were able to transfer phosphate from the .gamma.-position of ATP to the .beta.-position, albeit at a rate substantially slower than normal. They could also incorporate 14C-labeled adenine into ADP and ATP. Thus, a small amount of residual AK-like activity representing about 1/2000 of the activity normally present could be documented in the deficiency erythrocytes. The residual activity was not inhibited by N-ethyl-maleimide, which completely abolishes the activity of the normal AK1 isozyme of erythrocytes. The minute amount of residual activity in erythrocytes could represent a small amount of the AK2 isozyme, which has not been thought to be present in erythrocytes, or the activity of erythrocyte guanylate kinase with AMP substituting as substrate for GMP. Peripheral blood leukocytes, cultured skin fibroblasts, and transformed lymphoblasts from the deficient subject manifested about 17, 24 and 74%, respectively, of the activity of the concurrent controls. This residual activity is consistent with the existence of genetically independent AK isozyme, AK2, which is known to exist in these tissues. The cause of hemolysis in the proband was not identified. Possibilities include an unrelated enzyme deficiency or other erythrocyte enzyme defect and interaction of another unidentified defect with AK deficiency.
Descriptors/Keywords: CHILD LEUKOCYTE FIBROBLAST LYMPHO BLAST GUANYLATE KINASE ATP AMP ADP N ETHYL MALEIMIDE
Concept Codes:
*03508 Genetics and Cytogenetics-Human
*10808 Enzymes-Physiological Studies
*13020 Metabolism-Metabolic Disorders
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
*15006 Blood, Blood-Forming Organs and Body Fluids-Blood, Lymphatic and Reticuloendothelial Pathologies
*25000 Pediatrics
02508 Cytology and Cytochemistry-Human
06504 Radiation-Radiation and Isotope Techniques
10060 Biochemical Studies-General
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
15001 Blood, Blood-Forming Organs and Body Fluids-General; Methods
18001 Bones, Joints, Fasciae, Connective and Adipose Tissue-General; Methods
Biosystematic Codes:
86215 Hominidae
Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

3342144 BIOSIS Number: 71064543
CEREBRO SPINAL FLUID MARKERS OF DISTURBED BRAIN CELL METABOLISM IN PATIENTS WITH STROKE AND GLOBAL CEREBRAL ISCHEMIA

TERENT A; RONQUIST G
DEP. INTERN. MED., S-750 14 UPPSALA, SWED.

ACTA NEUROL SCAND 62 (6). 1980 (RECD. 1981). 327-335. CODEN: ANRSA
Full Journal Title: Acta Neurologica Scandinavica
Language: ENGLISH

Adenylate kinase activity was found in 32 of 34 CSF samples from 21 patients with stroke and 7 patients with global cerebral ischemia (GCI). The light absorbance values of the spectrum 400-650 nm revealed the scanty occurrence of Hb products in the CSF in some patients. There was no correlation between the absorbance values at 415 nm, reflecting oxyhemoglobin, and the adenylate kinase activities. A main contribution to the adenylate kinase activity in CSF by leakage of this enzyme from erythrocytes could be ruled out. Instead increased leakiness of the brain cells, having an impaired metabolism due to insufficient supply of O2 and glucose, was the most plausible cause of the findings. The quotient between the adenylate kinase activity and the light absorbance at 415 nm seemed to reflect the extent of ischemically deranged brain tissue in the GCI patients, while the CSF-lactate values were not correlated with the clinical outcome. Glutathione, an intracellular tripeptide, was found more often in the CSF from GCI patients than from stroke patients.

Descriptors/Keywords: ERYTHROCYTE HEMO GLOBIN OXY HEMO GLOBIN OXYGEN GLUCOSE LACTATE GLUTATHIONE ADENYLATE KINASE

Concept Codes:
*10808 Enzymes-Physiological Studies
*13003 Metabolism-Energy and Respiratory Metabolism
*13004 Metabolism-Carbohydrates
*13012 Metabolism-Proteins, Peptides and Amino Acids
*13013 Metabolism-Porphyrins and Bile Pigments
*13020 Metabolism-Metabolic Disorders
*14508 Cardiovascular System-Blood Vessel Pathology
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
*15010 Blood, Blood-Forming Organs and Body Fluids-Other Body Fluids
*20506 Nervous System-Pathology
02508 Cytology and Cytochemistry-Human
10006 Clinical Biochemistry; General Methods and Applications
10010 Comparative Biochemistry, General
10012 Biochemistry-Gases (1970-)
10060 Biochemical Studies-General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10065 Biochemical Studies-Porphyrins and Bile Pigments
10068 Biochemical Studies-Carbohydrates
10504 Biophysics-General Biophysical Techniques
10804 Enzymes-Methods
12503 Pathology, General and Miscellaneous-Comparative (1970-)
13002 Metabolism-General Metabolism; Metabolic Pathways
14501 Cardiovascular System-General; Methods
20501 Nervous System-General; Methods

Biosystematic Codes:
86215 Hominidae

Super Taxa:
Animals; Chordates; Vertebrates; Mammals; Primates; Humans

1/5/10 (Item 10 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

3278089 BIOSIS Number: 71000488
INCREASED CREATINE KINASE EC-2.7.3.2 ACTIVITIES ASSOCIATED WITH HEMOLYSIS
BAIS R; EDWARDS J B
DIV. CLIN. CHEM., INST. MED. VET. SCI., FROME RD., ADELAIDE, S. AUST. 5000, AUST.
PATHOLOGY 12 (2). 1980. 203-207. CODEN: PTLGA
Full Journal Title: Pathology
Language: ENGLISH
The effect of hemolysis on creatine kinase [EC 2.7.3.2] activity was investigated. The presence of adenylate kinase released from erythrocytes increases the apparent creatine kinase activity. This can be overcome by the addition of 10 .mu.mol/l of diadenosine pentaphosphate to the reagents.
Descriptors/Keywords: EC-2.7.3.2 ADENYLATE KINASE ERYTHROCYTES DI ADENOSINE PENTA PHOSPHATE
Concept Codes:
*10006 Clinical Biochemistry; General Methods and Applications
*10804 Enzymes-Methods
*10808 Enzymes-Physiological Studies
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
02506 Cytology and Cytochemistry-Animal
10054 Biochemical Methods-Proteins, Peptides and Amino Acids
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
Biosystematic Codes:
85150 Vertebrata-Unspecified
Super Taxa:
Animals; Chordates; Vertebrates; Nonhuman Vertebrates

1/5/11 (Item 11 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

3159871 BIOSIS Number: 20022278
EVALUATION OF NEW CREATINE KINASE FORMULATION ON ABBOTT BI CHROMATIC ANALYZERS
NERI B P; OLSON R M; ELSER R C
ABBOTT DIAGNOSTICS, N. CHICAGO, IL 60064.
JOINT MEETING OF THE AMERICAN ASSOCIATION FOR CLINICAL CHEMISTRY AND THE CANADIAN SOCIETY OF CLINICAL CHEMISTS, BOSTON, MASS., USA, JULY 20-25, 1980. CLIN CHEM 26 (7). 1980. 996-997. CODEN: CLCHA
Language: ENGLISH
Document Type: CONFERENCE PAPER
Descriptors/Keywords: ABSTRACT HUMAN SERUM HEMOLYSIS ERYTHROCYTE HEMO GLOBIN CONCENTRATION ADENYLATE KINASE EC-2.7.4.3 INHIBITOR
Concept Codes:
*10006 Clinical Biochemistry; General Methods and Applications
*10804 Enzymes-Methods
*10806 Enzymes-Chemical and Physical
*10808 Enzymes-Physiological Studies
*15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies
*15004 Blood, Blood-Forming Organs and Body Fluids-Blood Cell Studies
00520 General Biology-Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals
02508 Cytology and Cytochemistry-Human
04500 Mathematical Biology and Statistical Methods
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10065 Biochemical Studies-Porphyrins and Bile Pigments
10504 Biophysics-General Biophysical Techniques

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   13012   Metabolism-Proteins, Peptides and Amino Acids
   13013   Metabolism-Porphyrins and Bile Pigments
Biosystematic Codes:
   86215   Hominidae
Super Taxa:
   Animals; Chordates; Vertebrates; Mammals; Primates; Humans
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    $17.31  Estimated cost File5
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            $0.00  View Fee
     $0.45  Estimated cost File2
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            $0.00  View Fee
     $0.18  Estimated cost File3
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            $0.00  View Fee
     $0.27  Estimated cost File4
            $0.18    0.003 Hrs File6
            $0.00  View Fee
     $0.18  Estimated cost File6
            $0.09    0.001 Hrs File7
            $0.00  View Fee
     $0.09  Estimated cost File7
            $0.18    0.002 Hrs File8
            $0.00  View Fee
     $0.18  Estimated cost File8
            $0.09    0.001 Hrs File9
            $0.00  View Fee
     $0.09  Estimated cost File9
            $0.12    0.004 Hrs File10
            $0.00  View Fee
     $0.12  Estimated cost File10
            $0.03    0.001 Hrs File11
            $0.00  View Fee
     $0.03  Estimated cost File11
            OneSearch, 10 files,  0.066 Hrs FileOS
     $0.79  SPRNTNET
    $19.69  Estimated cost this search
    $25.41  Estimated total session cost   0.203 Hrs.
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N5             4    76: Life Sciences Collection_1982-1996/Mar
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N7             2    44: Aquatic Science Abstracts_1979-1996/Apr
N8             2   144: Pascal_1973-1996/Apr
N9             2   305: Analytical Abstracts Online_1980-1996/May
N10            2   357: Derwent Biotechnology Abs_1982-1996/Apr B2
   17 files have one or more items; file list includes 178 files.

        - Enter P or PAGE for more -
?p
Your last SELECT statement was:
   S MYOKINASE(10N)(ADENYLATE(W)KINASE)

Ref        Items   File
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N11            1    35: Dissertation Abstracts Online_1861-1996/May
N12            1    48: SPORT_1962-1996/Apr
N13            1   157: Aidsline(R)_1980-1995/May
N14            1   161: Occ.Saf.& Hth._1973-1996/Apr Q1
N15            1   434: SciSearch(R)_1974-1996/Apr W3
N16            1   440: Current Contents Search(R)_1990-1996/May W1
N17            1   652: US Patents Fulltext_1971-1979
N18            0     2: INSPEC_1969-1996/Apr W4
N19            0     6: NTIS_64-1996/Jun W4
N20            0     8: Ei Compendex*Plus(TM)_1970-1996/Jun W2
   17 files have one or more items; file list includes 178 files.

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?save temp
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Set     Items   Description
S1         53   MYOKINASE(10N)(ADENYLATE(W)KINASE)
S2         38   RD (unique items)
?t s2/ti/1-38

 2/TI/1     (Item 1 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

  Enzymatic phosphorylation and pyrophosphorylation of 2',3'-dideoxyadenosi
ne-5'-monophosphate,  a key metabolite in the pathway for activation of the
anti-HIV (human immunodeficiency virus) agent 2',3'-dideoxyinosine.


 2/TI/2     (Item 2 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

  Muscle   genetic   variants   and   relationship   with   performance   and
trainability.
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2/TI/3 (Item 3 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

Creatine kinase isoenzymes in spermatozoa.

2/TI/4 (Item 4 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

[ESR study of interaction between adenylate kinase, substrates and Mn2+ ions]
Issledovanie vzaimodeistviia adenilatkinazy a substratami i ionami margantsa metodom elektronnogo paramagnitnogo rezonansa.

2/TI/5 (Item 5 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

[Analysis of ESR spectra in Mn2+-plant adenylate kinase complex]
Analiz spektrov elektronnogo paramagnitnogo rezonansa kompleksov ionov margantsa s adenilatkinazoi rastitel'nogo proiskhozhdeniia.

2/TI/6 (Item 6 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

[Study of the Mg2+-ATPase reaction of myosin using the NMR-31P method. Detection of adenylate kinase activity in a purified myosin subfragment I]
Primenenie metoda IaMR-31P dlia izucheniia Mg2+-ATPaznoi reaktsii miozina. Ovnaruzhenie adenilatkinaznoi aktivnosti v ochishchennom preparate subfragemnta 1 miozina.

2/TI/7 (Item 7 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

[Serum myokinase-(adenylate kinase)activity in intravascular hemolysis]
Myokinase-(Adenylatkinase-)Aktivitat im Serum bei intravasaler Hamolyse.

2/TI/8 (Item 8 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

[Behavior of adenylate kinase (myokinase), adenosine triphosphate (ATP) and K- and Na-ions in the serum or blood under standardized physical stress]
Verhalten der Adenylatkinase (Myokinase), des Adenosintriphosphats (ATP) und der K- und Na-Ionen im Serum bzw. Blut unter standardisierter korperlicher Belastung.

2/TI/9 (Item 9 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

[Circadian fluctuations of adenylate kinase (myokinase) of the blood serum]
Zirkadiane Schwankungen der Adenylatkinase (Myokinase) des Serums.

2/TI/10 (Item 10 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

[On the occurrence of creatine kinase and myokinase (adenylate kinase) in the skin]
Uber das Vorkommen von Kreatin-Kinase und Myokinase (Adenylatkinase) in der Haut.

2/TI/11 (Item 11 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

[Activity of myokinase (adenylate kinase) and creatine kinase in serum and muscles in Erb's progressive muscular dystrophy]
Die Akivitat der Myokinase (Adenylatkinase) und der Creatinkinase im Serum und Muskel bei der progressiven Muskeldystrophie (Erb)

2/TI/12 (Item 1 from file: 5)
DIALOG(R)File 5:(c) 1996 BIOSIS. All rts. reserv.

RAPID RELEASE OF ADENYLATE KINASE MYOKINASE BY MYCOBACTERIA FROM HUMAN NEUTROPHILS PMN

2/TI/13 (Item 2 from file: 5)
DIALOG(R)File 5:(c) 1996 BIOSIS. All rts. reserv.

PHOSPHORYLATION AND NITROGENASE ACTIVITY IN ISOLATED HETEROCYSTS FROM ANABAENA-VARIABILIS ATCC-29413

2/TI/14 (Item 3 from file: 5)
DIALOG(R)File 5:(c) 1996 BIOSIS. All rts. reserv.

ANALYSIS OF ESR SPECTRA IN MANGANESE PLANT ADENYLATE KINASE COMPLEX

2/TI/15 (Item 4 from file: 5)
DIALOG(R)File 5:(c) 1996 BIOSIS. All rts. reserv.

PHOSPHAGENS AND PHOSPHO KINASES IN TUBIFEX-SP

2/TI/16 (Item 5 from file: 5)
DIALOG(R)File 5:(c) 1996 BIOSIS. All rts. reserv.

INDICATOR ENZYME ASSAYS 2. ADENYLATE KINASE APPLICATION TO HUMAN MUSCLE BIOPSIES AND BLOOD CELLS

2/TI/17 (Item 6 from file: 5)
DIALOG(R)File 5:(c) 1996 BIOSIS. All rts. reserv.

STUDY OF THE MAGNESIUM ATPASE REACTION OF MYOSIN USING THE PHOSPHORUS-31 NMR METHOD DETECTION OF ADENYLATE KINASE ACTIVITY IN A PURIFIED MYOSIN SUBFRAGMENT 1

2/TI/18 (Item 7 from file: 5)
DIALOG(R)File 5:(c) 1996 BIOSIS. All rts. reserv.

STUDIES ON ATP TRANS PHOSPHORYLASES ISOLATION AND SEVERAL PROPERTIES OF THE CRYSTALLINE CALF ATP AMP TRANS PHOSPHORYLASES ADENYLATE KINASES FROM MUSCLE AND LIVER AND SOME OBSERVATIONS ON THE RABBIT MUSCLE ADENYLATE KINASE

2/TI/19 (Item 8 from file: 5)
DIALOG(R)File 5:(c) 1996 BIOSIS. All rts. reserv.

ADENYLATE KINASE OF PLANTS PROPERTIES OF ADENYLATE KINASE OF PEA LEAVES

2/TI/20 (Item 1 from file: 399)
DIALOG(R)File 399:(c) 1996 American Chemical Society. All rts. reserv.

Measurement of adenylate kinase (myokinase) in human neutrophils and its release by bacteria. Effect of lipid A on the activity of the enzyme

2/TI/21 (Item 2 from file: 399)
DIALOG(R)File 399:(c) 1996 American Chemical Society. All rts. reserv.

Adenylate kinase (myokinase)

2/TI/22 (Item 3 from file: 399)
DIALOG(R)File 399:(c) 1996 American Chemical Society. All rts. reserv.

Changes in adenylate kinase (myokinase), ATP, and sodium and potassium ions in blood serum under standardized physical stress

2/TI/23 (Item 4 from file: 399)
DIALOG(R)File 399:(c) 1996 American Chemical Society. All rts. reserv.

Occurrence of creatine kinase and myokinase (adenylate kinase) in skin

2/TI/24 (Item 1 from file: 73)
DIALOG(R)File 73:(c) 1996 Elsevier Science B.V. All rts. reserv.

Distribution of adenine nucleotides between the inner and outer spaces of the mitochondrion as a determinant of phosphorylation pattern

2/TI/25 (Item 1 from file: 76)
DIALOG(R)File 76:(c) 1996 Cambridge Sci Abs. All rts. reserv.

ESR study of interaction between adenylate kinase, substrates and Mn super(2+) ions.

2/TI/26 (Item 2 from file: 76)
DIALOG(R)File 76:(c) 1996 Cambridge Sci Abs. All rts. reserv.

Analysis of ESR Spectra in Mn super(2+) -- Plant Adenylate Kinase Complex.

2/TI/27 (Item 1 from file: 653)
DIALOG(R)File 653:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

COMPOSITION FOR LIPASE ASSAY

2/TI/28 (Item 2 from file: 653)
DIALOG(R)File 653:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

METHOD OF MEASURING CREATINE KINASE ACTIVITY

2/TI/29 (Item 3 from file: 653)
DIALOG(R)File 653:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

COMPOSITION FOR INHIBITING ADENYLATE-KINASE AND ITS USE

2/TI/30 (Item 4 from file: 653)
DIALOG(R)File 653:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

ENZYMATIC PROCESS FOR PREPARING [.GAMMA.-.SUP.32 P]-LABELED NUCLEOTIDES

2/TI/31 (Item 1 from file: 144)
DIALOG(R)File 144:(c) 1996 INIST/CNRS. All rts. reserv.

MYOKINASE- (ADENYLATKINASE-) AKTIVITAET IM SERUM BEI INTRAVASALER HAEMOLYSE
(ACTIVITE DE MYOKINASE (ADENYLATE-KINASE) DU SERUM DANS L'HEMOLYSE INTRAVASCULAIRE)

2/TI/32 (Item 1 from file: 305)
DIALOG(R)File 305:(c) 1996 Royal Soc Chemistry. All rts. reserv.

Enzymic fluorimetric assay for tissue cAMP.

2/TI/33 (Item 2 from file: 305)
DIALOG(R)File 305:(c) 1996 Royal Soc Chemistry. All rts. reserv.

Plasma carnitine reference values.

2/TI/34 (Item 1 from file: 357)
DIALOG(R)File 357:(c) 1996 Derwent Publ Ltd. All rts. reserv.

Cascade-like exponential substrate amplification in enzyme sensors - enzyme electrode construction using adenylate-kinase, pyruvate-kinase and pyruvate-oxidase; mathematical model (conference paper)

2/TI/35 (Item 2 from file: 357)
DIALOG(R)File 357:(c) 1996 Derwent Publ Ltd. All rts. reserv.

A new multi-enzyme system for a one-pot synthesis of sialyl oligosaccharides: combined use of beta-galactosidase and alpha(2,6)-sialyltransferase coupled with regeneration in situ of

CMP-sialic acid - sialo-oligosaccharide production using acylneuraminate-cytidylyltransferase, alpha-2,6-sialyltransferase, beta-galactosidase, etc.

2/TI/36 (Item 1 from file: 35)
DIALOG(R)File 35:(c) 1996 UMI. All rts. reserv.

SELECTIVE INHIBITION BY VANADATE OF ENZYMES WHICH CATALYZE PHOSPHORYL TRANSFER REACTIONS (MYOKINASE, PYRUVATE KINASE, HEXOKINASE)

2/TI/37 (Item 1 from file: 161)
DIALOG(R)File 161:(c)Format only 1996 Knight Ridder Info. All rts. reserv.

The Adenylate Kinase of Rat Liver Mitochondria

2/TI/38 (Item 1 from file: 652)
DIALOG(R)File 652:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

FLUORESCENT DERIVATIVES OF CYTOSINE-CONTAINING COMPOUNDS
?t s2/7/7,8,10,16,21

2/7/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1996 Knight-Ridder Info. All rts. reserv.

02101017 73080017
[Serum myokinase-(adenylate kinase)activity in intravascular hemolysis]
Myokinase-(Adenylatkinase-)Aktivitat im Serum bei intravasaler Hamolyse.
Mainzer K; Morsches B; Holzmann H
Arztl Forsch (GERMANY, WEST) Dec 10 1972, 26 (12) p426-31, ISSN 0001-9496 Journal Code: 2SY
Languages: GERMAN
Document type: JOURNAL ARTICLE

2/7/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1996 Knight-Ridder Info. All rts. reserv.

01563152 71108152
[Behavior of adenylate kinase (myokinase), adenosine triphosphate (ATP) and K- and Na-ions in the serum or blood under standardized physical stress]
Verhalten der Adenylatkinase (Myokinase), des Adenosintriphosphats (ATP) und der K- und Na-Ionen im Serum bzw. Blut unter standardisierter korperlicher Belastung.
Kaffarnik H; Gross W; Dawid E; Deibert K; Juchems R
Z Gesamte Exp Med (GERMANY, WEST) 1970, 153 (4) p324-30, Journal Code: XUE
Languages: GERMAN
Document type: JOURNAL ARTICLE

2/7/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 1996 Knight-Ridder Info. All rts. reserv.

00670097 68230097
[On the occurrence of creatine kinase and myokinase (adenylate kinase) in the skin]
Uber das Vorkommen von Kreatin-Kinase und Myokinase (Adenylatkinase) in der Haut.
Rassner G
Arch Klin Exp Dermatol (GERMANY, WEST) 1967, 228 (3) p259-65, ISSN 0300-8614 Journal Code: 7Q6
Languages: GERMAN
Document type: JOURNAL ARTICLE

2/7/16 (Item 5 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

3313394 BIOSIS Number: 71035793
INDICATOR ENZYME ASSAYS 2. ADENYLATE KINASE APPLICATION TO HUMAN MUSCLE BIOPSIES AND BLOOD CELLS
FISHBEIN W N; DAVIS J I; WINKERT J W; FISHBEIN J D
ARMED FORCES INST. PATHOL., WASHINGTON, D.C. 20306.
BIOCHEM MED 24 (2). 1980. 130-142. CODEN: BIMDA
Full Journal Title: Biochemical Medicine
Language: ENGLISH
A multisample spectrophotometric assay for adenylate kinase was developed for the visible wavelength range, by coupling the enzyme reaction with that of adenylate deaminase. The procedure exhibited excellent stability and linearity characteristics, and was suitable for the assay of crude (or purified) enzyme in a variety of tissues including erythrocyte lysates. Specificity of the assay was verified by the use of several inhibitors with pure and crude enzyme preparations, and by comparison with 2 other assays. Human muscle adenylate kinase was readily extracted in media of low, as well as high, ionic strengths, in contrast to adenylate deaminase. The assay was used to compare the relative specific activities (on a protein basis) of the enzyme from isolated human platelets, lymphocytes, red cells and granulocytes, which were .apprx. 100:91:72:53. In contrast, human skeletal muscle biopsies had specific activities 15- to 30-fold higher than peripheral blood cells. Diadenosine pentaphosphate, at 50 .mu.M levels, produced complete inhibition of myokinase and marked inhibition of granulocyte adenylate kinase, whereas 2-deoxycoformycin was ineffective. The assay was particularly suitable for use in conjunction with the corresponding indicator assay for adenylate deaminase in the evaluation of tissue and blood specimens.

2/7/21 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

100170444 CA: 100(21)170444y CONFERENCE PROCEEDING
Adenylate kinase (myokinase)
AUTHOR(S): Brolin, Sven E.
LOCATION: S-75123, Uppsala, Swed.
JOURNAL: Methods Enzym. Anal. (3rd Ed.) EDITOR: Bergmeyer, Hans Ulrich (Ed), DATE: 1983 VOLUME: 3, PAGES: 540-59 CODEN: 50HMA2 LANGUAGE: English PUBLISHER: Verlag Chem.,Weinheim, Fed. Rep. Ger
SECTION:
CA107001 Enzymes
IDENTIFIERS: adenylate kinase detn, organ adenylate kinase detn, body fluid adenylate kinase detn

DESCRIPTORS:
Body fluid... Organ...
* adenylate kinase detn. in, of human and lab. animal
Disease...
diagnosis of, of human, adenylate kinase detn. for
CAS REGISTRY NUMBERS:
9013-02-9 detn. of, in human body fluids and organs and other sources, methods for
?t s2/7/7,8,10,16,21 ab
>>>'AB' not allowed as item list
?t s2/ab/7,8,10,21
>>>No matching display code(s) found in file(s): 399

2/AB/7 (Item 7 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

2/AB/8 (Item 8 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

2/AB/10 (Item 10 from file: 155)
DIALOG(R)File 155:(c) format only 1996 Knight-Ridder Info. All rts. reserv.

2/AB/24 (Item 1 from file: 73)
DIALOG(R)File 73:(c) 1996 Elsevier Science B.V. All rts. reserv.

Mitochondrial preparations incubated with sup 3sup 2Pi and sup 3H ADP were subjected to rapid filtration through a Millipore filter to study the intramitochondrial distribution of labelled nucleotides. The atractyloside induced inhibition of the distribution of internally labelled nucleotides and of externally added sup 3H ADP revealed that the nucleotides in the matrix space are successfully separated by this means from those outside the inner membrane. The addition of Mgsup 2sup + to the incubation medium has no effect on the labelling pattern in the matrix space but results in a rapid interconversion of adenine nucleotides outside the inner membrane through the activation of adenylate kinase (EC 2.7.4.3) and nucleosidediphosphate kinase (EC 2.7.4.6), which do not function in an Mgsup 2sup + free medium. The localization of GTP AMP phosphotransferase (EC 2.7.4.10) outside the membrane is questionable, but was not definitely excluded. The translocation of internal ATP outwards in exchange for external ATP or ADP induced by the addition of ATP or ADP, of hexokinase plus glucose or of myokinase (muscle adenylate kinase) plus AMP into the incubation medium appears to be a significant factor in promoting the labelling of ATP, reflecting oxidative phosphorylation. sup 3sup 2Pi Labelling of ADP dependent on substrate level phosphorylation is greatly suppressed under these conditions. This apparent suppression of substrate level phosphorylation is at least partly accounted for in terms of the lowered specific radioactivity of the Pi compartment selectively supporting AMP phosphorylation as compared to the specific radioactivity of the major Pi pool serving as the substrate for oxidative phosphorylation. A possible interaction of these 2 phosphorylation reactions in rat liver mitochondria is also discussed.
? Examined 100 files
Examined 150 files

No files have one or more items; file list includes 178 files.

?log y

01may96 19:37:32 User208670 Session B295.4
$3.00 0.100 Hrs File411
$3.00 Estimated cost File411
$1.20 SPRNTNET
$4.20 Estimated cost this search
$19.46 Estimated total session cost 0.218 Hrs.
Logoff: level 41.03.03 B 19:37:32

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rf
Your last SELECT statement was:
   S (ADENYLATE(3N)KINASE OR MYOKINASE OR ADENYLOKINASE)(10N)(ELECTROPHORE-
SIS OR IMMUNOASSAY OR ANTIBODY OR WESTERN(W)(BLOT OR BLOTTING) OR IMMUNOEL-
ECTROPHORESIS)
Ref         Items   File
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N1             82     5: BIOSIS PREVIEWS(R)_1969-1995/Jun W4
N2             75   155: MEDLINE(R)_1966-1995/Aug W3
N3             35    73: EMBASE_1974-1995/Iss 24
N4             28   144: Pascal_1973-1995/May
N5             23   399: CA SEARCH(R)_1967-1995/UD=12224
N6             22   434: SciSearch(R)_1974-1995/Jun W2
N7             14    76: Life Sciences Collection_1978-1995/Mar
N8              7   440: Current Contents Search(R)_1990-1995/May W4
N9              4    50: CAB ABSTRACTS_1972-1995/Apr
N10             2   156: Toxline(R)_1965-1995/May
   20 files have one or more items; file list includes 168 files.

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Your last SELECT statement was:
   S (ADENYLATE(3N)KINASE OR MYOKINASE OR ADENYLOKINASE)(10N)(ELECTROPHORE-
SIS OR IMMUNOASSAY OR ANTIBODY OR WESTERN(W)(BLOT OR BLOTTING) OR IMMUNOEL-
ECTROPHORESIS)
Ref         Items   File
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N11             2   305: Analytical Abstracts Online_1980-1995/Jun
N12             1    35: Dissertation Abstracts Online_1861-1995/Jun
N13             1   149: Health Periodicals DB(TM)_1976-1995/Jun W4
N14             1   265: Fed. Res. in Progress_1995/Jun
N15             1   266: Fed. Res. in Progress_1995/Jun
N16             1   285: BioBusiness(R)_1985-1995/May W3
N17             1   347: JAPIO_OCT 1976-1995/JAN.
N18             1   351: DERWENT WPI_1981-1995/UD=9524;UA=9518;UM=9514
N19             1   653: US Pat.Fulltext_1980-1989
N20             1   654: US Pat.Full_1990-1995/Jun 20
   20 files have one or more items; file list includes 168 files.

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Temp SearchSave "TB224" stored
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Set     Items   Description
S1        303   (ADENYLATE(3N)KINASE OR MYOKINASE OR ADENYLOKINASE)(10N)(E-
                LECTROPHORESIS OR IMMUNOASSAY OR ANTIBODY OR WESTERN(W)(BLOT -
                OR BLOTTING) OR IMMUNOELECTROPHORESIS)
S2        228   RD (unique items)
S3        178   S2 AND ELECTROPHORESIS
S4          1   S2 AND IMMUNOELECTROPHORESIS
S5         54   S2 AND ANTIBODY
S6          3   S2 AND WESTERN
S7          8   S2 AND IMMUNOASSAY
?t s7/7/1-8

 7/7/1     (Item 1 from file: 5)
DIALOG(R)File   5:BIOSIS PREVIEWS(R)
(c) 1995 BIOSIS. All rts. reserv.
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6983871 BIOSIS Number: 87044392
CLINICAL AND ANALYTICAL EVALUATION OF TWO IMMUNOASSAYS FOR DIRECT MEASUREMENT OF CREATINE KINASE MB WITH MONOCLONAL ANTI-CK-MB ANTIBODIES
APPLE F; PREESE L; BENNETT R; FREDRICKSON A
CLIN. LAB., HENNEPIN COUNTY MED. CENT., 701 PARK AVE. SOUTH, MINNEAPOLIS, MINN. 55415.
CLIN CHEM 34 (11). 1988. 2364-2367. CODEN: CLCHA
Full Journal Title: Clinical Chemistry
Language: ENGLISH
We examined the clinical and analytical performance of two immunoassays (Becton Dickinson CK-MB; Ciba-Corning Magic Lite CK-MB) in which monoclonal anti-CK-MB antibodies are used for directly measuring creatine kinase (EC 2.7.3.2) isoenzyme MB (CK-MB) in serum, and also one electrophoretic method (Ciba-Corning). Within- and between-assay precision for both immunoassays was good at the upper reference limits (< 10% CV). Analytical recoveries ranged from 102 to 114%. Both immunoassays were free from interference by CK-BB, mitochindrial-CK, macro-CK, adenylate kinase, and CK-MM. Retrospectively, we evaluated four categories of patients, Using both immunoassays and electrophoresis: normal controls, acute myocardial infarction (AMI) patients, severe skeletal muscle trauma patients, and acutely ill patients known not to have AMI. In general, there were excellent correlations among all three methods. CK-MB activity (U/L) measured by the Becton Dickinson immunoassay was .apprx. 50% of the mass concentration (.mu.g/L) of the Magic Life immunoassay and 50% of the activity concentration (U/L) determined by electrophoresis. Both immunoassays were easy to perform and sensitive to the low CK-MB concentrations often found with low total-CK activities.

7/7/2 (Item 2 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

6208640 BIOSIS Number: 35074161
EVALUATION OF BECTON DICKINSON BD CK MB IMMUNOASSAY COMPARISON WITH MAGIC LITE CK MB AND ELECTROPHORESIS
PREESE L; BENNETT R; FREDRICKSON A; APPLE F
CLIN. LABS., HENNEPIN COUNTY MED. CENT., MINNEAPOLIS, MINN. 55415.
40TH NATIONAL MEETING OF THE AMERICAN ASSOCIATION FOR CLINICAL CHEMISTRY, NEW ORLEANS, LOUISIANA, USA, JULY 24-28, 1988. CLIN CHEM 34 (6). 1988. 1283-1284. CODEN: CLCHA
Language: ENGLISH

7/7/3 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05779007 86080007
Clinical and analytical evaluation of kits for measurement of creatine kinase isoenzyme MB.
Koch TR; Mehta UJ; Nipper HC
Clin Chem (UNITED STATES) Jan 1986, 32 (1 Pt 1) p186-91, ISSN 0009-9147 Journal Code: DBZ
Languages: ENGLISH
Document type: JOURNAL ARTICLE
We studied the analytical and clinical performance of six methods for creatine kinase (EC 2.7.3.2) isoenzyme MB (CK-MB): three immunoassays (Behring, Hybritech, and International Immunoassay Labs); one immunoinhibition assay (Roche); one immunoinhibition/column method (Du

Pont); and one electrophoretic method (Beckman). Between-day precision for all kits was poor at the upper reference limit. All methods gave results linearly related to CK-MB concentration and all were free from CK-MM, CK-BB, and adenylate kinase interference. Only the Du Pont method was adversely affected by atypical isoenzymes. For diagnosis of acute myocardial infarction in a coronary care population (n = 40; prevalence = 45%), all methods were approximately 95% efficient, when appropriate reference criteria were used. Some manufacturers fail to provide data for an appropriate (acutely ill, non-infarct) reference population; decreased diagnostic specificity may result from use of reference ranges based on results for healthy subjects. Expression of CK-MB as a percent of total CK degrades efficiency unless total CK is markedly increased.

7/7/4 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05367236 84291236

Synthesis and evaluation of luminescent tracers and hapten-protein conjugates for use in luminescence immunoassays with immobilised antibodies and antigens. A critical study of macro solid phases for use in immunoassay systems, Part II.

Gadow A; Fricke H; Strasburger CJ; Wood WG

J Clin Chem Clin Biochem (GERMANY, WEST) May 1984, 22 (5) p337-47, ISSN 0340-076X Journal Code: I3U

Languages: ENGLISH

Document type: JOURNAL ARTICLE

This article describes the synthesis of labels and hapten-protein conjugates for use in bio- and chemiluminescent immunoassay systems, together with the problems encountered. The effects of maleimide upon acetate-, adenylate- and pyruvate kinase activity have been studied, as well as upon the luciferin-luciferase monitoring system. Maleimide inhibited both acetate and adenylate kinase but showed no inhibition of pyruvate kinase and the monitoring reagent. Four heterobifunctional reagents were tested for their capability in forming pyruvate kinase-donkey-anti-rabbit IgG conjugates which retained enzyme and antibody activity. The best results were obtained with succinimidyl-4-(N-maleimidomethyl)-cyclohexane-1-carboxylate and succinimidyl-6-(p-maleimidophenyl)-hexanoate. The relationship between the amounts of succinimidyl-4-(N-maleimidomethyl)-cyclohexane-1-carboxylate and IgG was studied with respect to enzymic activity of the conjugate. The Michaelis-Menten constants for both conjugated and non-conjugated pyruvate kinase were calculated and compared. It was found that the maximal velocity (Vmax) of the conjugated enzyme was lower than that of the non-conjugated enzyme although the "apparent" Km value was the same for both conjugated and non-conjugated pyruvate kinase. The pyruvate kinase-anti rabbit IgG conjugate was tested for its ability to bind to rabbit-IgG coated polystyrene balls. In addition to bioluminescent labels, the synthesis of chemiluminescent markers was undertaken and optimised. The three substances used for labelling were diazoluminol, diazoisoluminol and N-(4-aminobutyl)-N-ethylisoluminol hemisuccinamide the latter being used as an N-hydroxysuccinamide "active" ester. The ratio of label to IgG was studied for diazoluminol and N-(4-aminobutyl)-N-ethylisoluminol hemisuccinamide active ester after it had been discovered that diazoisoluminol was not suitable for coupling to antibodies. The optimal molar ratios label: IgG were for diazoluminol 40:1 and for N-(4-aminobutyl)-N-ethylisoluminol hemisuccinamide active ester 60:1. Increasing the substitution rate led to a lessening of the dynamic range, shown by an increase in the ratio between unspecific binding (noise) to

maximal binding (signal) in an assay. The synthesis of hapten-protein conjugates for covalent coupling to polystyrene balls was undertaken as this formed part of the preparation for the assays described in Part III. The optimal production of gentamicin-bovine serum albumin and thyroxine-transferrin conjugates has been described in detail.

7/7/5 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

110035812 CA: 110(5)35812h JOURNAL
Adenylate kinase as a marker in immuno-enzyme analysis with a bioluminescence detection system
AUTHOR(S): Shutenko, T. V.; Gavrilova, E. M.; Egorov, A. M.
LOCATION: Moscow State Univ., Moscow, USSR
JOURNAL: Biotekhnologiya DATE: 1988 VOLUME: 4 NUMBER: 5 PAGES: 659-64
CODEN: BTKNEZ ISSN: 0234-2758 LANGUAGE: Russian
SECTION:
CA207001 Enzymes
CA209XXX Biochemical Methods
IDENTIFIERS: immunoenzyme analysis bioluminescence adenylate kinase
DESCRIPTORS:
Immunochemical analysis,enzyme immunoassay...
adenylate kinase as marker in
CAS REGISTRY NUMBERS:
9003-99-0 detn. of, by enzyme immunoassay with adenylate kinase
9013-02-9 in enzyme immunoassay, as marker

7/7/6 (Item 1 from file: 76)
DIALOG(R)File 76:Life Sciences Collection

1367949 82002042549
Bioluminescent enzyme immunoassay with adenylate kinase market.
Shutenko, T.V.; Gavrilova, Ye.M.; Yegorov, A.M.
Moscow State Univ., Moscow, USSR
BIOTEKHNOLOGIYA; 4(5), pp. 659-664 1988
Language: Russian Summary Language: English
Document Type: Journal article-original research
Subfile: 27 Marine Biotechnology Abstracts; 06 Immunology Abstracts
A solid-phase bioluminescent enzyme immunoassay was devised, the sensitivity of which was considerably improved by the use of adenylate kinase as the marker. The method was based on the preparation of an adenylate kinase-horseradish peroxidase (antigen) conjugate, with the conjugate retaining, respectively, 1.3 and 60 percent of the enzymatic activities of the two enzymes and their antigenic specificities. As employed here the system was capable of measuring antigen concentrations as low as 10-12 M with 2 h incubation times by measuring market activity in the supernatant.

7/7/7 (Item 1 from file: 149)
DIALOG(R)File 149:Health Periodicals DB(TM)

14750260 Supplier Number: 14750260 *Use Format 9 for FULL TEXT*
TITLE: Noninvasive assessment of reperfusion and reocclusion after thrombolysis in acute myocardial infarction. (A Symposium: Unresolved

Issues in Thrombolysis)
AUTHOR: Klootwijk, Peter; Cobbaert, Christa; Fioretti, Paolo; Kint, Peter Paul; Simoons, Maarten L.
JOURNAL: American Journal of Cardiology VOL.: v72 ISSUE: n19
PAGINATION: p75G(10)
PUBLICATION DATE: Dec 16, 1993
AVAILABILITY: FULL TEXT Online LINE COUNT: 00636
SOURCE FILE: HI File 149
AUTHOR ABSTRACT: The clinical significance of ST-segment changes and of the time course of appearance in serum of different cardiac proteins has been reviewed for the diagnosis of coronary reperfusion and reocclusion after thrombolysis. In particular, the value of serial 12-lead electrocardiographic (ECG) studies, of Holter monitoring, and of continuous multilead computer-assisted ECG monitoring is compared. Regarding the serum proteins, the clinical significance of reperfusion indices described so far for serum creatine kinase (CK), its isoenzyme serum creatine kinase MB, the CK isoforms, and myoglobin is reviewed. Emphasis is placed on (1) the calculation method used for deriving the reperfusion indices; (2) the sensitivity and the specificity of the reperfusion indices; (3) the minimum turn-around time needed to produce the reperfusion indices (depending on the practicability of the analytical and calculation methods and their applicability in an emergency laboratory); (4) the ability of the indices to produce reliable estimates of reperfusion efficacy of the thrombolytic agents under study; and (5) the ability of the marker proteins to detect reinfarction as well as the suitability of the markers to detect real-time necrosis.

7/7/8 (Item 1 from file: 654)
DIALOG(R)File 654:US Pat.Full

02361683
Utility
DETERMINATION OF CK ISOENZYMES AND CK ISOFORMS

PATENT NO.: 5,369,006
ISSUED: November 29, 1994 (19941129)
INVENTOR(s): Obzansky, David M., Elkton, MD (Maryland), US (United States of America)
ASSIGNEE(s): E I Du Pont de Nemours and Company, (A U.S. Company or Corporation), Wilmington, DE (Delaware), US (United States of America)
[Assignee Code(s): 25048]
APPL. NO.: 7-752,944
FILED: August 20, 1991 (19910820)
FULL TEXT: 682 lines

ABSTRACT

An immunoassay for CK isoenzyme or CK isoform is provided based on capture of the CK isoenzyme or CK isoform by a specific antibody immobilized through a cleavable linker containing a disulfide bond onto a solid phase and release of the resulting antibody-CK isoenzyme or antibody-CK isoform complex by the addition of a reducing agent to cleave the disulfide bond and simultaneously activate the CK isoenzyme or CK isoform.

What is claimed is:

1. A heterogeneous immunoassay for the measurement of CK isoenzyme or CK isoform in a liquid sample comprising the steps of:
(a) immobilizing an antibody specific for CK isoenzyme or CK isoform onto a solid phase through a cleavable linker containing a disulfide bond;
(b) contacting the immobilized antibody with a sample containing CK isoenzyme or CK isoform to form immobilized antibody-CK isoenzyme or antibody-CK isoform complex;
(c) separating the immobilized complex formed in step (b) from soluble components;
(d) releasing antibody-CK isoenzyme or antibody CK-isoform complex from the solid phase by contacting the immobilized complex with a reducing agent capable of cleaving the disulfide bond of the clearable linker and simultaneously activating the CK isoenzyme or CK isoform enzymatic activity;
(e) separating the solid phase from the released antibody-CK isoenzyme or antibody-CK isoform complex; and
(f) determining the enzymatic activity of CK isoenzyme or CK isoform in solution.

2. The heterogeneous immunoassay of claim 1, wherein the CK isoenzyme is CK-MB.

3. The heterogeneous immunoassay of claim 1, wherein the solid phase is chromium dioxide particles.

4. The heterogeneous immunoassay of claim 1, wherein the reducing agent is dithiothreitol.
?t s6/7/1-3

6/7/1 (Item 1 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

8085139 BIOSIS Number: 91006139
MULTIFORMS OF MAMMALIAN ADENYLATE KINASE AND ITS MONOCLONAL ANTIBODY AGAINST AK-1
KUROKAWA Y; TAKENAKA H; SUMIDA M; OKA K; HAMADA M; KUBY S A
DEP. HYGIENE, MIYAZAKI MED. COLL., KIYOTAKE-CHO, MIYAZAKI-GUN, MIYAZAKI 889-16, JPN.
ENZYME (BASEL) 43 (2). 1990. 57-71. CODEN: ENZYB
Full Journal Title: ENZYME (Basel)
Language: ENGLISH
An attempt has been made to determine the intracellular distribution of the multiforms of the adenylate kinase (AK) isoenzymes in mammalian tissues, to shed some light on their physiological roles, especially in energy metabolism. The adenylate kinase zymograms obtained from isoelectric focusing yielded two typical isoform patterns: with a pI .gtoreq. 9 and 8.6, specific for bovine skeletal muscle, heart, aorta and brain, and with a pI = 7.9 and 7.1, specific for liver and kidney. Pattern (1) was attributed to the cytosolic isoenzyme (AK1) as demonstrated by immunostaining with anti-AK1. Pattern (2) was attributed to the mitochondrial isoenzyme (AK2). These resusts were largely confirmed by chromatofocusing experiments. The AK1 isoenzyme was partially purified from the cytosol fraction of bovine aortic smooth muscle and had an apparent Mr of 23.5 kilodaltons. Its kinetic features are discussed from a comparative standpoint. Finally, the human serum AK1 isoform was also detected by Western blotting with a monoclonal antibody directed against crystalline porcine muscle AK1. These results are to form the basis of further studies on the 'aberrant' adenylate kinase isoenzyme from the serum of Duchenne muscular dystrophics.

6/7/2 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06776611 89078611
Yeast adenylate kinase is transcribed constitutively from a promoter in the short intergenic region to the histone H2A-1 gene.
Oechsner U; Magdolen V; Zoglowek C; Hacker U; Bandlow W
Institute for Genetics and Microbiology, Munchen, FRG.
FEBS Lett (NETHERLANDS) Dec 19 1988, 242 (1) p187-93, ISSN 0014-5793
Journal Code: EUH
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Yeast mitochondrial adenylate kinase (high molecular mass form, gene locus: AKY2) is encoded on chromosome IV of the same DNA strand as histone H2A-1. The nontranslated intergenic region spans 560 bp, the nontranscribed spacer can be estimated to comprise at most 300 bp. The TATA-box sequence is contained in a striking environment consisting of 20 alternating pyrimidines and purines. The AKY2 transcript is made constitutively: (i) the cellular mRNA concentration does not vary significantly with either growth conditions or elapse of the cell cycle; (ii) beta-galactosidase activity is about constant in yeast cells grown on various carbon sources after transformation with AKY2-promoter/lacZ fusions; (iii) primer elongation analysis shows that utilization of 5 initiation sites is qualitatively and quantitatively independent of the growth conditions and the carbon source used; (iv) Western blot analysis and adenylate kinase activity measurements indicate the absence of post-transcriptional controls as well.

6/7/3 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03078073 76259073
Placental enzyme polymorphisms in Canadian populations.
Donald LJ
Hum Hered (SWITZERLAND) 1976, 26 (3) p234-8, ISSN 0001-5652
Journal Code: GE9
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Phenotype distributions and allele frequencies of adenylate kinase and esterase D were determined for four Canadian populations. In two population samples from south-western Ontario, allele frequencies at both loci were similar to those of European populations. In two northern, indigenous populations, the allele AK2 was not detected. There was variation at the EsD locus with EsD2 having a frequency of 0.176 in an Indian population, and 0.156 in an Eskimo population.
?t s4/7/1

4/7/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03668952 79045952
Purification and some structural properties of adenylate kinase from Leuconostoc mesenteroides (Lactobacteriaceae).
O'Rorke A; O'Cuinn G

Int J Biochem (ENGLAND) 1978, 9 (10) p723-8, ISSN 0020-711X
Journal Code: E4S
Languages: ENGLISH
Document type: JOURNAL ARTICLE
?t s4/ab/1
>>>No matching display code(s) found in file(s): 399

4/AB/1 (Item 1 from file: 155)
DIALOG(R)File 155:(c) format only 1995 Knight-Ridder Info. All rts. reserv.
?s s3 or s5
178 S3
54 S5
S8 224 S3 OR S5
?s s8 and glucose
224 S8
931022 GLUCOSE
S9 31 S8 AND GLUCOSE
?t s9/ti/1-31

9/TI/1 (Item 1 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

Genetic variation in populations of the terrestrial planarian Artioposthia triangulata (Dendy), and evidence for passive dispersal in Northern Ireland

9/TI/2 (Item 2 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

YEAST ADENYLATE KINASE IS ACTIVE SIMULTANEOUSLY IN MITOCHONDRIA AND CYTOPLASM AND IS REQUIRED FOR NON-FERMENTATIVE GROWTH

9/TI/3 (Item 3 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

CARBOHYDRATE ENERGY AND HYDROGENOSOMAL METABOLISM OF TRITRICHOMONAS-FOETUS AND TRICHOMONAS-VAGINALIS

9/TI/4 (Item 4 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

BIOCHEMICAL GENETICS OF BLACKFLY ISOZYMES II. GENETIC VARIABILITY AND DIFFERENTIATION AMONG NATURAL POPULATIONS OF SIMULIUM-OCHRACEUM THE VECTOR OF ONCHOCERCIASIS IN GUATEMALA

9/TI/5 (Item 5 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

PGI-3-ISRAEL A NEW UNSTABLE ALLELE IN THE PHOSPHOGLUCOSE ISOMERASE SYSTEM

9/TI/6 (Item 6 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

PEPTIDASE POLYMORPHISM IN NATURAL POPULATIONS OF THE COCOA PEST HELOPELTIS-THEOBROMAE

9/TI/7 (Item 7 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

POLYMORPHIC ENZYME SYSTEMS IN HUMAN HAIR SHEATH CELLS

9/TI/8 (Item 8 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

CYCLIC AMP DEPENDENT PROTEIN PHOSPHORYLATION IN CANINE RENAL BRUSH BORDER MEMBRANE VESICLES IS ASSOCIATED WITH DECREASED PHOSPHATE TRANSPORT

9/TI/9 (Item 9 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

ISO ENZYMES IN THE GASTROPOD HALIOTIS-DISCUS

9/TI/10 (Item 10 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

ELECTROPHORETIC STUDIES ON ENZYMES IN PARAGONIMUS-SPP 1. COMPARISON OF ISOZYME PATTERNS BETWEEN PARAGONIMUS-OHIRAI AND PARAGONIMUS-MIYAZAKII

9/TI/11 (Item 11 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

BIOCHEMICAL SYSTEMATICS OF THE CYPRINID GENUS NOTROPIS 1. THE SUBGENUS LUXILUS

9/TI/12 (Item 12 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

USE OF NAD DEPENDENT GLUCOSE 6 PHOSPHATE DEHYDROGENASE IN ENZYME STAINING PROCEDURES

9/TI/13 (Item 13 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

CYTO GENETIC AND BIOCHEMICAL CHARACTERISTICS OF HYBRID CULTURES OBTAINED AS A RESULT OF FUSION OF SOMATIC CELLS OF THE CHINESE HAMSTER AND FOX VULPES-FULVUS

9/TI/14 (Item 14 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

ELECTROPHORETIC SPECTRA OF ISOMERASES TRANSFERASES AND OXIDO REDUCTASES FROM THE STARFISH PATIRIA-PECTINIFERA

9/TI/15 (Item 15 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

NEW DATA ON THE HYBRID ZONE BETWEEN BOMBINA-BOMBINA AND BOMBINA-VARIEGATA ANURA DISCOGLOSSIDAE

9/TI/16 (Item 16 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

EXTRAMITOCHONDRIAL AND INTRA MITOCHONDRIAL DISTRIBUTION OF RESPIRATORY ENZYMES IN THE OOCYTES OF XENOPUS-LAEVIS

9/TI/17 (Item 17 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

DETERMINATION OF PHENOTYPES OF RED CELL ENZYMES BY ELECTROPHORESIS ON CELLULOSE ACETATE

9/TI/18 (Item 18 from file: 5)
DIALOG(R)File 5:(c) 1995 BIOSIS. All rts. reserv.

HEMO GLOBIN AND RED CELL ENZYME VARIATION IN SOME POPULATIONS OF THE REPUBLIC OF VIETNAM WITH COMMENTS ON THE MALARIA HYPOTHESIS

9/TI/19 (Item 1 from file: 155)
DIALOG(R)File 155:(c) format only 1995 Knight-Ridder Info. All rts. reserv.

Enzymatic characterization of Babesia bovis.

9/TI/20 (Item 2 from file: 155)
DIALOG(R)File 155:(c) format only 1995 Knight-Ridder Info. All rts. reserv.

Isoenzyme studies on cercariae from monoinfections and adult worms of Schistosoma mansoni (10 isolates) and S. rodhaini (one isolate) by horizontal polyacrylamide gel electrophoresis and staining of eight enzymes.

9/TI/21 (Item 3 from file: 155)
DIALOG(R)File 155:(c) format only 1995 Knight-Ridder Info. All rts. reserv.

[Determination of the phenotypes of several erythrocytic enzymes by cellulose acetate electrophoresis]
Determination des phenotypes de quelques enzymes erythrocytaires par electrophorese sur acetate de cellulose

9/TI/22 (Item 1 from file: 144)
DIALOG(R)File 144:(c) 1995 INIST/CNRS. All rts. reserv.

Isoenzyme studies on cercaria from monoinfections and adult worms of Schistosoma mansoni (10 isolates) and S. rodhaisis (one isolate) by horizontal polyacrylamide gel electrophoresis and staining of eight enzymes

9/TI/23 (Item 2 from file: 144)
DIALOG(R)File 144:(c) 1995 INIST/CNRS. All rts. reserv.

VARIATION OF SEVERAL ERYTHROCYTE ENZYMES IN THE DAYAKS OF SARAWAK.

9/TI/24 (Item 1 from file: 399)
DIALOG(R)File 399:(c) 1995 American Chemical Society. All rts. reserv.

Test reagent containing antibody for removing adenylate kinase interference

9/TI/25 (Item 2 from file: 399)
DIALOG(R)File 399:(c) 1995 American Chemical Society. All rts. reserv.

Isoenzyme demonstration on Temo-membranes. (Technique of CAM electrophoresis, sources of error, condition of hemolyzates)

9/TI/26 (Item 1 from file: 434)
DIALOG(R)File 434:(c) 1995 Inst for Sci Info. All rts. reserv.

Title: CLONING AND CHARACTERIZATION OF THE GENE ENCODING ATP-DEPENDENT PHOSPHO-ENOL-PYRUVATE CARBOXYKINASE IN TRYPANOSOMA-CRUZI - COMPARISON OF PRIMARY AND PREDICTED SECONDARY STRUCTURE WITH HOST CTP-DEPENDENT ENZYME

9/TI/27 (Item 1 from file: 76)
DIALOG(R)File 76:(c) 1995 Cambridge Sci Abs. All rts. reserv.

Enzyme variation in the Anopheles gambiae Giles group of species (Diptera: Culicidae).

9/TI/28 (Item 1 from file: 347)
DIALOG(R)File 347:(c) JPO & JAPIO. All rts. reserv.

DETERMINATION REAGENT AND DETERMINATION METHOD

9/TI/29 (Item 1 from file: 351)
DIALOG(R)File 351:(c)1995 Derwent Info Ltd. All rts. reserv.

Assay reagent - contains anti-adenylate kinase antibody with hexokinase or glucokinase, and glucose-6-phosphate dehydrogenase

9/TI/30 (Item 1 from file: 653)
DIALOG(R)File 653:(c) format only 1995 Knight-Ridder Info. All rts. reserv.

ADENYLATE KINASE AND PROCESS FOR THE PRODUCTION THEREOF

9/TI/31 (Item 1 from file: 654)
DIALOG(R)File 654:(c) format only 1995 Knight-Ridder Info. All rts. reserv.

DETERMINATION OF CK ISOENZYMES AND CK ISOFORMS
?
9/7/12 (Item 12 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)
(c) 1995 BIOSIS. All rts. reserv.

3336677 BIOSIS Number: 71059076
USE OF NAD DEPENDENT GLUCOSE 6 PHOSPHATE DEHYDROGENASE IN ENZYME STAINING PROCEDURES
BUTH D G; MURPHY R W
DEP. BIOL., UNIV. CALIF., LOS ANGELES, CALIF. 90024.
STAIN TECHNOL 55 (3). 1980. 173-176. CODEN: STTEA
Full Journal Title: Stain Technology
Language: ENGLISH
Substitution of NAD-dependent glucose-6-phosphate dehydrogenase for the NADP-dependent enzyme has produced identical results in a number of enzyme-linked electrophoretic staining procedures. This substitution significantly reduces the cost of staining for adenylate kinase, creatine kinase, glucosephosphate isomerase, mannosephosphate isomerase, phosphoglucomutase and pyruvate kinase activity by utilizing NAD rather than the more expensive NADP.

9/7/14 (Item 14 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

2159262 BIOSIS Number: 63063682
ELECTROPHORETIC SPECTRA OF ISOMERASES TRANSFERASES AND OXIDO REDUCTASES FROM THE STARFISH PATIRIA-PECTINIFERA
MANCHENKO G P; SEROV O L
BIOL MORYA (VLADIVOST) (5). 1976 (RECD 1977) 57-60. CODEN: BIMOD
Full Journal Title: Biologiya MORYA (Vladivostok)
Enzymes (10) of different organs from the starfish P. pectinifera (Mueller et Troschel) were investigated by vertical starch gel electrophoresis. These enzymes were glucosephosphate isomerase, phosphoglucomutase, adenylate kinase, hexokinase, tetrazolium oxidase, xanthine dehydrogenase, 6-phosphogluconate dehydrogenase, glucose 6-phosphate dehydrogenase and malate dehydrogenase. Electrophoretic patterns were described for different organs of the starfish. Intraspecific variability of soluble malate dehydrogenase was detected; it was probably under genetic control.

9/7/17 (Item 17 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

1945855 BIOSIS Number: 62035415
DETERMINATION OF PHENOTYPES OF RED CELL ENZYMES BY ELECTROPHORESIS ON CELLULOSE ACETATE
LE GALL J-Y; ROLLAND J-P; MUBAMBA C
ANN BIOL CLIN 33 (6). 1975 (RECD 1976) 443-451. CODEN: ABCLA
Full Journal Title: Annales de Biologie Clinique
A simple and rapid separation technique using cellulose acetate electrophoresis for G-6-P dehydrogenase isoenzymes, 6-phosphogluconate dehydrogenase, phosphoglucomutase, adenosine deaminase, adenylate kinase, phosphohexose isomerase and lactate dehydrogenase isoenzymes in human red cells was described. These techniques were derived from those of Rattazi et al. for G-6-P dehydrogenase and Sonneborn for 6-phosphogluconate dehydrogenase, phosphoglucomutase, adenosine deaminase, adenylate kinase and acid phosphatase.

9/7/21 (Item 3 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

03023114 76204114
[Determination of the phenotypes of several erythrocytic enzymes by cellulose acetate electrophoresis]
Determination des phenotypes de quelques enzymes erythrocytaires par electrophorese sur acetate de cellulose
Le Gall JY; Rolland JP; Mubamba C
Ann Biol Clin (Paris) (FRANCE) 1975, 33 (6) p443-51, ISSN 0003-3898
Journal Code: 4ZS
Languages: FRENCH Summary Languages: ENGLISH
Document type: JOURNAL ARTICLE English Abstract
The authors describe simple and rapid separation technics by electrophoresis on cellulose acetate of glucose-6-phosphate dehydrogenase isoenzymes, 6-phosphogluconate dehydrogenase, phosphoglucomutase, adenosine deaminase, adenylate kinase, phosphohexose isomerase, lactate dehydrogenase iosenzymes in the red cells. These technics are derived from those of Rattazi et al. for glucose-6-phosphate dehydrogenase and Sonneborn for 6-phosphogluconate dehycrogenase, phosphoglucomutase, adenosine deaminase, adenylate kinase and acid phosphatase.

9/7/23 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

01432692 PASCAL No.: 77-0049240
VARIATION OF SEVERAL ERYTHROCYTE ENZYMES IN THE DAYAKS OF SARAWAK.
GANESAN J; LIE-INJO L E; ONG BEMG P
INST. MED. RES.,KUALA LUMPUR
Journal: HUM. HERED., 1976, 26 (2) 124-127
Availability: CNRS-5535
No. of Refs.: 11 REF.
Document Type: P (SERIAL) ; A (ANALYTIC)
Country of Publication: SWITZERLAND
Language: ENGLISH

9/7/25 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

88070810 CA: 88(11)70810e JOURNAL
Isoenzyme demonstration on Temo-membranes. (Technique of CAM electrophoresis, sources of error, condition of hemolyzates)
AUTHOR(S): Berndt, H.; Schier, H.
LOCATION: Abt. Immunol. Transfusionsmed., Med. Hochsch. Luebeck, Luebeck, Ger.
JOURNAL: Aerztl. Lab. DATE: 1977 VOLUME: 23 NUMBER: 11 PAGES: 510-17
CODEN: AELAAH LANGUAGE: German
SECTION:
CA007001 Enzymes
CA009XXX Biochemical Methods
IDENTIFIERS: isoenzyme detn cellulose acetate electrophoresis, acid phosphatase isoenzyme detn electrophoresis, esterase D isoenzyme detn electrophoresis, adenosine deaminase isoenzyme detn electrophoresis, adenylate kinase isoenzyme detn electrophoresis, phosphoglucomutase isoenzyme detn electrophoresis, glucose phosphate dehydrogenase isoenzyme electrophoresis

DESCRIPTORS:
Enzymes...
isoenzymes, detn. of, by cellulose acetate membrane electrophoresis
Electrophoresis and Ionophoresis,cellulose acetate membrane...
of isoenzymes
CAS REGISTRY NUMBERS:
9013-79-0 D, isoenzymes, detn. of, by cellulose acetate membrane electrophoresis
9001-40-5 9001-77-8 9001-81-4 9013-02-9 9026-93-1 isoenzymes, detn. of, by cellulose acetate membrane electrophoresis

9/7/28 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

04269297
DETERMINATION REAGENT AND DETERMINATION METHOD

PUB. NO.: 05-260997 [JP 5260997 A]
PUBLISHED: October 12, 1993 (19931012)
INVENTOR(s): HIRANO MAYUMI
SHIRAISHI TAKANARI
SUZUKI TADAO
APPLICANT(s): UNITIKA LTD [000450] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-060742 [JP 9260742]
FILED: March 17, 1992 (19920317)

ABSTRACT

PURPOSE: To obtain a reagent enabling accurate determination of glucose, creatine kinase, etc., in a bioliquid by using hexokinase, glucose-6-phosphate dehydrogenase and antiadenylate kinase antibody as essential components.

CONSTITUTION: The objective reagent contains (A) hexokinase or glucokinase, (B) glucose-6-phosphate dehydrogenase and (C) antiadenylate kinase antibody. Various biocomponents, etc., can be determined without being influenced with adenylate kinase in the bioliquid.
?t s8/7/3,21-24,26,28,33,42,43,69,95,104,122,135,190

8/7/3 (Item 3 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

8085139 BIOSIS Number: 91006139
MULTIFORMS OF MAMMALIAN ADENYLATE KINASE AND ITS MONOCLONAL ANTIBODY AGAINST AK-1
KUROKAWA Y; TAKENAKA H; SUMIDA M; OKA K; HAMADA M; KUBY S A
DEP. HYGIENE, MIYAZAKI MED. COLL., KIYOTAKE-CHO, MIYAZAKI-GUN, MIYAZAKI 889-16, JPN.
ENZYME (BASEL) 43 (2). 1990. 57-71. CODEN: ENZYB
Full Journal Title: ENZYME (Basel)
Language: ENGLISH
An attempt has been made to determine the intracellular distribution of the multiforms of the adenylate kinase (AK) isoenzymes in mammalian tissues, to shed some light on their physiological roles, especially in energy metabolism. The adenylate kinase zymograms obtained from isoelectric focusing yielded two typical isoform patterns: with a pI .gtoreq. 9 and 8.6, specific for bovine skeletal muscle, heart, aorta and brain, and with

a pI = 7.9 and 7.1, specific for liver and kidney. Pattern (1) was attributed to the cytosolic isoenzyme (AK1) as demonstrated by immunostaining with anti-AK1. Pattern (2) was attributed to the mitochondrial isoenzyme (AK2). These resusts were largely confirmed by chromatofocusing experiments. The AK1 isoenzyme was partially purified from the cytosol fraction of bovine aortic smooth muscle and had an apparent Mr of 23.5 kilodaltons. Its kinetic features are discussed from a comparative standpoint. Finally, the human serum AK1 isoform was also detected by Western blotting with a monoclonal antibody directed against crystalline porcine muscle AK1. These results are to form the basis of further studies on the 'aberrant' adenylate kinase isoenzyme from the serum of Duchenne muscular dystrophics.

8/7/21 (Item 21 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

4852356 BIOSIS Number: 79094671
ADENYLATE KINASE EC-2.7.4.3 FROM RAT LIVER MOLECULAR PROPERTIES AND STRUCTURAL COMPARISON WITH YEAST ENZYME
WATANABE K; KINOSHITA T; KAWAI N; TASHIRO N; MORI T; KUBO S; YAMAMOTO S
LAB. BIOCHEM., SCH. VET. MED. AND ANIM. SCI., KITASATO UNIV., TOWADA, AOMORI 034, JPN.
JPN J VET SCI 47 (1). 1985. 63-72. CODEN: NJUZA
Full Journal Title: Japanese Journal of Veterinary Science
Language: ENGLISH
Adenylate kinase from rat liver was found to have a MW in the range between 25,000 and 33,000 by sodium dodecylsulfate (SDS) polyacrylamide gel electrophoresis using the continuous and discontinuous buffer systems, sedimentation equilibrium, and Sephadex G-100 gel filtration. The purified enzyme was separated into 3 peaks of activities with isoelectric points (pl) of 8.1, 7.5 and 6.7, respectively, by column isoelectric focusing, and this heterogeneity may be due to deamidation. The purified enzyme has 1 disulfide bond which related to the active conformation of the enzyme and 2 SH groups which did not contribute to the enzyme activity. Antibody against the purified rat liver adenylate kinase showed a cross-reactivity with yeast adenylate kinase, but antibody against the rat muscle isoenzyme showed no cross-reactivity with the yeast enzyme. Apparently, antibody against the yeast enzyme cross-reacted with the rat liver isoenzyme but not with the rat muscle isoenzyme. These results indicate that there is a structural resemblance between the rat liver and yeast enzymes.

8/7/22 (Item 22 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

4369362 BIOSIS Number: 77044689
ANTIGENIC STRUCTURE OF ADENYLATE KINASE EC-2.7.4.3 FROM PORCINE SKELETAL MUSCLE 2. IMMUNOCHEMICAL CROSS REACTIVITY OF FRAGMENTS FROM ADENYLATE KINASE
KOYAMA Y; ENDO S; SEKI T; SATO N; SHIOKAWA H
SECTION BIOCHEM., INST. IMMUNOL. SCI., HOKKAIDO UNIV., SAPPORO 060, JAPAN.
MOL IMMUNOL 20 (8). 1983. 851-856. CODEN: MOIMD
Full Journal Title: Molecular Immunology
Language: ENGLISH
Specific antibody to a fragment [CBb(2-56)] of porcine muscle adenylate kinase was purified from goat antiserum against adenylate kinase on an

immunoadsorbent column. This anti-CBb antibody cross-reacted in solid phase radioimmunoassay with 2 other CNBr-fragments of adenylate kinase, CNfN(81-125) and CBfC(126-194). This cross-reactivity explained their high inhibition activities in quantitative precipitin reaction between adenylate kinase and goat antiserum. Cysteinyl residues of the enzyme (positions 25 and 187) were S-cyanylated with 2-nitro-5-thiocyanobenzoic acid and the enzyme was cleaved at these residues. Fragment 1-24 thus obtained was purified. The fragment 1-24, composing the N-terminal half of CBb(2-56), accounted for full activity of CBb to anti-CBb in radioimmunoassay. Hence antigenic region(s) of CBb(2-56) exist in its N-terminal half, 2-24, and this determinant(s) may be closely related to the cross-reactivity among CB-fragments. CBfN also bound to the antibody fraction which had not been adsorbed to CBb-Sepharose (non-anti-CBb). CBfN carried additional antigenic regions. Evidently, the antigenic reactive region(s) of adenylate kinase responsible for the cross-reactivity of the CB-fragments are as follows: -Glu-Glu-Lys-Leu-Lys-Lys- (2-7), -Glu-Glu-Phe-Lys-Arg-Lys- (103-108), -Glu-Glu-Thr-Ile-Lys-Lys- (143-148).

8/7/23 (Item 23 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

4314812 BIOSIS Number: 27078647
A GENERAL METHOD FOR VISUALIZING ENZYMES RELEASING ADENOSINE OR AMP
FRIEDRICH C A; CHAKRAVARTI S; FERRELL R E
CENTER DEMOGRAPHIC POPULATION GENETICS, GRADUATE SCH. BIOMEDICAL SCI., UNIV. TEXAS HEALTH SCI. CENTER, HOUSTON, TX 77025.
BIOCHEM GENET 22 (5-6). 1984. 389-394. CODEN: BIGEB
Full Journal Title: Biochemical Genetics
Language: ENGLISH

8/7/24 (Item 24 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

4137014 BIOSIS Number: 76086865
ISO ENZYMATIC FORMS AND DISTRIBUTION OF ADENYLATE KINASE EC-2.7.4.3 AND CREATINE KINASE EC-2.7.3.2 IN BOVINE ADRENAL MEDULLA
MIRAS-PORTUGAL M T; ORERA A; MILLARUELO A
DEP. BIOQUIMICA, FAC. MED., UNIV. AUTONOMA, MADRID-34.
REV ESP FISIOL 38 (SUPPL.). 1982. 159-164. CODEN: REFIA
Full Journal Title: Revista Espanola de Fisiologia
Language: SPANISH
Adenylate kinase, creatine kinase and their substrate and product levels were investigated in adrenal medullary tissue. The concentration of adenine nucleotides and creatine + creatine phosphate are 12.6 .+-. 0.4 and 6.9 .+-. 0.4 .mu.mol/g wet wt, respectively. Adenylate kinase is mainly in the cytosol; only 4% was found in the mitochondria. The cytosol enzyme presents a Km for AMP of 5 .times. 10-4 M and a Ki [inhibition constant] for diadenosine pentaphosphate of 0.6 .times. 10-6 M. In gel electrophoresis, only 1 band of adenylate kinase activity can be seen, and its mobility is different from that of the brain enzyme. Creatine kinase from adrenal medulla is mainly found in cytosol; only 3-4% was associated with mitochondria. The cytosolic enzyme is mainly the BB isozyme form.

8/7/26 (Item 26 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

4052642 BIOSIS Number: 76002493
ATP AMP PHOSPHO TRANSFERASE FROM NORMAL HUMAN LIVER MITOCHONDRIA ISOLATION CHEMICAL PROPERTIES AND IMMUNOCHEMICAL COMPARISON WITH DUCHENNE DYSTROPHIC SERUM ABERRANT ADENYLATE KINASE EC-2.7.4.3
HAMADA M; SUMIDA M; OKUDA H; WATANABE T; NOJIMA M; KUBY S A
DEP. OF HYGIENE, EHIME UNIV. SCH. OF MED., SHIGENOBU-CHO, ONSEN-GUN, EHIME 791-02, JPN.
J BIOL CHEM 257 (21). 1982. 13120-13128. CODEN: JBCHA
Full Journal Title: Journal of Biological Chemistry
Language: ENGLISH
Adenylate kinase was purified .apprx. 1360-fold to a final specific activity of 280 .mu.mol of ATP formed min-1 .cntdot. mg-1 of protein at 30.degree. C from normal human liver mitochondria. The purity of the final preparation was evaluated by studies with polyacrylamide gel electrophoresis [PAGE] and sodium dodecyl sulfate[SDS]-PAGE and by sedimentation studies. The purified enzyme catalyzes transphosphorylation reactions between ATP and AMP, ATP and adenosine-5'-thiophosphate, ATP and adenosine monophosphate-3'-pyrophosphate, adenosine-5'-(3-thio)triphosphate and AMP. The nearly constant ratios of these activities throughout the purification scheme suggest that all are catalyzed by the same enzyme. The purified enzyme has a MW of 25,200 by sedimentation equilibrium with the use of a partial specific volume of 0.73 ml .cntdot. g-1 calculated from amino acid analysis. This purified enzyme was also found to be a single polypeptide with a MW of 26,500 by SDS-PAGE. From amino acid analysis, a calculated minimum MW of 26,349 was obtained. Initial velocity studies revealed a narrow specificity for adenine nucleotides. The .hivin.Kd' values for MgATP2- and MgATP2-.gamma.S1 were 0.12 and 0.57 .mu.M with .**GRAPHIC**. values of 1.04 (.+-. 0.04) .times. 103 and 7.02 .times. 102 .mu.mol .cntdot. min-1 .cntdot. mg-1, respectively. For the monophosphate acceptor, .hivin.Kd' values of 0.56 and 186 .mu.M were measured for 5'-AMP2- and AMP2-.alpha.S, respectively. The .hivin.Kd' for MgADP1- and ADP3- were 0.53 and 0.17 .mu.M with a .**GRAPHIC**. of 6.40 (.+-. 0.03) .times. 102 .mu.mol .cntdot. min-1 .cntdot. mg-1 or protein. The steady state kinetics, at pH 7.4, 30.degree. C, and essentially fixed .TAU./2 of 0.16-0.18, of this enzyme seem to be adequately expressed by a random quasi-equilibrium type of mechanism with a rate-limiting step largely at the interconversion of the ternary complexes, as shown in rabbit muscle, calf muscle, and calf liver adenylate kinase. It would appear that normal human liver mitochondrial adenylate kinase largely favors the forward reaction (ADP formation). A specific anti-liver enzyme antibody obtained from rabbit serum inhibited the purified liver mitochondrial enzyme activity, but not the purified human muscle enzyme, nor the aberrant adenylate kinase from Duchenne dystrophic serum.

8/7/28 (Item 28 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

3968992 BIOSIS Number: 75016351
CREATINE KINASE EC-2.7.3.2 ISO ENZYMES IN NEO NATE PLASMA BY CELLULOSE ACETATE ELECTROPHORESIS ALBUMIN AND ADENYLATE KINASE EC-2.7.4.3 ARTIFACTS
MASSEY T H; BARTA J S
CLINICAL LAB., VALLEY GENERAL HOSP., 400 S. 43 ST., RENTON, WASH. 98055.
CLIN CHEM 28 (5). 1982. 1174-1176. CODEN: CLCHA
Full Journal Title: Clinical Chemistry
Language: ENGLISH
Patterns of creatine kinase (CK, EC 2.7.3.2) isoenzymes were studied in

apparently healthy 1- to 10-day-old neonates, by use of a sensitive fluorescent staining method with Sclavo CK-F/60001 reagent. Mean activities of CK3 (MM, 105 U/l), CK2 (MB, 6.8 U/l), CK1(BB, 11U/l), adenylate kinase (EC 2.7.4.3) anodal to CK3 and a fluorescent albumin artifact were found. Pooled plasma from neonates is recommended as a control because it defines the albumin artifact and approximates the activity of CK2 that must be observed after proper staining before a diagnosis of myocardial infarction can be made.

8/7/33 (Item 33 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

3647784 BIOSIS Number: 73040151
AN ABERRANT ADENYLATE KINASE EC-2.7.3.2 ISO ENZYME FROM THE SERUM OF PATIENTS WITH DUCHENNE MUSCULAR DYSTROPHY
HAMADA M; OKUDA H; OKA K; WATANABE T; UEDA K; NOJIMA M; KUBY S A; MANSHIP M; TYLER F H; ZITER F A
DEP. HYGIENE, EHIME UNIV. SCH. OF MED., SHIGENOBU, ONSEN-GUN, EHIME 791-02, JPN.
BIOCHIM BIOPHYS ACTA 660 (2). 1981. 227-237. CODEN: BBACA
Full Journal Title: Biochimica et Biophysica Acta
Language: ENGLISH
The sera from patients with human Duchenne (X-linked) progressive muscular dystrophy contain elevated adenylate kinase (ATP: AMP phosphotransferase, EC 2.7.4.3) activities, in addition to their characteristically high creatine kinase (ATP: creatine N-phosphotransferase, EC 2.7.3.2) activities. By agarose gel electrophoresis of human Duchenne dystrophic serum, the presence of an apparently normal human serum adenylate kinase together with a variant species of adenylate kinase was detected. The latter enzyme species appeared, in its mobility, to be similar to that of the normal human liver-type adenylate kinase. The presence of this aberrant liver-type adenylate kinase was demonstrated by characteristic (for the liver type) inhibition patterns with P1,P5-di-(adenosine-5')pentaphosphate, 5,5'-dithiobis(2-nitrobenzoate) and phosphoenolpyruvate. By inhibition titrations with an anti-muscle-type adenylate kinase, hemolysates from the erythrocytes of several Duchenne and Becker's dystrophics contained .apprx. 96% muscle-type adenylate kinase and their serum .apprx. 97% muscle-type adenylate kinase. The same patients contained .apprx. 89% M-M type creatine kinase in their serum (by inhibition against anti-human muscle-type creatine kinase) indicative of the presence of M-B plus B-B type active isoenzymes. These data are best explained by the presence of a variant or mutant adenylate kinase isoenzyme in the dystrophic serum. This isoenzyme appears to resemble the liver type in its inhibition patterns with P1,P5-di(adenosine-5')pentaphosphate, 5,5' dithiobis(2-nitrobenzoate) and phosphoenolpyruvate, and in its heat stability (compare also the agarose gel electrophoresis pattern); structurally, it is a muscle type, or derived from a muscle type, as shown immunologically by inhibition reaction with anti-muscle-type adenylate kinase. Whether this is a fetal-type isoenzyme of adenylate kinase will require further investigation.

8/7/42 (Item 42 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

3350829 BIOSIS Number: 71073228
ADENYLATE KINASE EC-2.7.4.3 ISO ENZYME PATTERNS IN NORMAL AND NEOPLASTIC

HUMAN LUNG AND IN VARIOUS ADULT AS COMPARED TO FETAL RAT TISSUES
CAYANIS E; GREENGARD O; ILIESCU C
DEP. PEDIATR., ABG. 17-40, MT. SINAI MED. CENT., 1 GUSTAVE L. LEVY PL., NEW YORK, N.Y.
ENZYME (BASEL) 25 (6). 1980 (RECD. 1981). 382-386. CODEN: ENZYB
Full Journal Title: ENZYME (Basel)
Language: ENGLISH
The isozyme pattern and total activity of adenylate kinase were studied in normal adult and fetal human and rat tissues using starch gel electrophoresis. Three adenylate kinase isoenzymes were identified in human tissues. Although normal adult lung exhibited higher adenylate kinase activity than did its fetal or neoplastic variant, isozyme patterns in the 3 types of tissues were indistinguishable from each other and from that in fetal human liver. The pattern of these 3 isozymes in rat lung (as in spleen) also did not change between fetal and adult life. Adult kidney and heart of this species did appear to contain isozymes not present in fetal life. Brain (adult and fetal) was strikingly different from all the other tissues in that it contained only 1 adenylate kinase isozyme. The total adenylate kinase activity/g of adult rat liver, kidney and lung was significantly higher than in the cognate fetal organs; that in brain or spleen did not change with age. The activity in adult heart (similar to the fetal one) was higher than in any other tissue examined.

8/7/43 (Item 43 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

3336677 BIOSIS Number: 71059076
USE OF NAD DEPENDENT GLUCOSE 6 PHOSPHATE DEHYDROGENASE IN ENZYME STAINING PROCEDURES
BUTH D G; MURPHY R W
DEP. BIOL., UNIV. CALIF., LOS ANGELES, CALIF. 90024.
STAIN TECHNOL 55 (3). 1980. 173-176. CODEN: STTEA
Full Journal Title: Stain Technology
Language: ENGLISH
Substitution of NAD-dependent glucose-6-phosphate dehydrogenase for the NADP-dependent enzyme has produced identical results in a number of enzyme-linked electrophoretic staining procedures. This substitution significantly reduces the cost of staining for adenylate kinase, creatine kinase, glucosephosphate isomerase, mannosephosphate isomerase, phosphoglucomutase and pyruvate kinase activity by utilizing NAD rather than the more expensive NADP.

8/7/69 (Item 69 from file: 5)
DIALOG(R)File 5:BIOSIS PREVIEWS(R)

1251045 BIOSIS Number: 10030941
ELECTROPHORESIS OF ADENYLATE KINASE
SAWAKI S; HATTORI N; MORIKAWA S
PHYS-CHEM BIOL (CHIBA) 17 (2). 1973 127-129 CODEN: SBBKA

8/7/95 (Item 13 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

06050606 87024606

Rapid purification of adenylate kinase from human erythrocytes and skeletal muscle.
Nealon DA
Arch Biochem Biophys (UNITED STATES) Oct 1986, 250 (1) p19-22, ISSN 0003-9861 Journal Code: 6SK
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Adenylate kinase from human erythrocytes and skeletal muscle can be purified to homogeneity by a new procedure based on DEAE-Sepharose and Blue Sepharose affinity chromatography and Sephadex G-75 fractionation. For the enzyme purified from erythrocytes the specific activity is 3,000 U/mg of protein, and the overall yield is 70%. For the enzyme purified from skeletal muscle the specific activity is 2,075 U/mg of protein, and the overall yield is 44%. The sequence of steps takes advantage of the high isoelectric point, the high affinity for Blue Sepharose, and the low molecular weight of the isoenzyme from these two human tissues.

8/7/104 (Item 22 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05017381 83250381
Urinary adenylate kinase isoenzyme pattern in patients with myocardial infarction.
Ronquist G; Frithz G
Ups J Med Sci (SWEDEN) 1983, 88 (1) p51-9, ISSN 0300-9734 Journal Code: WRG
Languages: ENGLISH
Document type: JOURNAL ARTICLE
Adenylate kinase was purified in pooled urinary samples from patients with uncomplicated myocardial infarction. The purification procedure included ammonium sulfate precipitation and column chromatographic steps. It was necessary to stabilize the enzyme during purification with 2-mercaptoethanol and AMP. Polyacrylamidgelelectrophoresis in sodium dodecanyl sulfate revealed the release of 4 different isoenzymes of AK into urine from patients with myocardial infarction. The molecular weights of these isoenzymes were estimated to be 21,000; 24,000; 33,000 and 36,000, respectively.

8/7/122 (Item 40 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03754580 79131580
Determination of adenylate kinase variants in two Washington, D.C., population samples: a microcellulose acetate procedure.
Stombaugh PM Jr; Kearney JJ
J Forensic Sci (UNITED STATES) Jul 1977, 22 (3) p590-5, ISSN 0022-1198 Journal Code: I5Z
Languages: ENGLISH
Document type: JOURNAL ARTICLE

8/7/135 (Item 53 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03054349 76235349

Three major forms of adenylate kinase from adult and fetal rat tissues.
Pradhan TK; Criss WE
Enzyme (SWITZERLAND) 1976, 21 (4) p327-31, ISSN 0013-9432
Journal Code: EI6
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The major enzymatic forms of adenylate kinase have been purified to homogeneity from fetal liver and adult brain of the rat. The two enzymes differ with respect to isoelectric points, Km (ATP), Km (AMP), and Ka (citrate). Antibody to adult liver adenylate kinase does not inhibit either enzyme, while entibody to adult skeletal muscle enzyme inhibits the brain enzyme but not the fetal liver enzyme. It is therefore probable that there are three major forms of adenylate kinases in fetal and adult rat tissues.

8/7/190 (Item 10 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

74050386 CA: 74(11)50386d JOURNAL
Thin-layer starch-gel electrophoresis for determining adenylate kinase types with blood stains
AUTHOR(S): Oepen, Ion; Dure, V.
LOCATION: Inst. Rechtsmed., Univ. Marburg, Marburg, Ger.
JOURNAL: Aerztl. Lab. DATE: 1970 VOLUME: 16 NUMBER: 12 PAGES: 383-7
CODEN: AELAAH LANGUAGE: German
SECTION:
CA806000 Biochemical Methods
IDENTIFIERS: starch gel electrophoresis, adenylate kinase blood typing
DESCRIPTORS:
Blood,analysis...
adenylate kinase isoenzymes detection in blood stains
Kinases (phosphorylating)...
isoenzymes, detection in blood stains
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28jun95 11:30:17 User208670 Session B143.3
$3.24 0.108 Hrs File5